

HIMALAYAN SCULPTURE IN THE XXTH CENTURY  
A Study of the Religious Statuary in Metal and Clay of  
the Nepal Valley and Ladakh

by

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## ABSTRACT OF THESIS

The thesis of this work is that the study of XXth century Himalayan art is not only a subject worthy of serious historical research in its own right, but may also help to shed more light on the history of Tibetan and Himalayan art in general. It is divided into a foreword and five chapters.

The Foreword (pp. I-XIV) justifies the choice of the subject, discusses the problem of copying and explains the methods followed in the research.

Chapter One (pp. 1-46) is a comprehensive account of the relationship between Newars and Tibetans at cultural, artistic, social and economic levels from the VIIth century A. D. to the present day.

Chapter Two (pp. 47-105) introduces and provides brief accounts of the lives of thirteen leading Newar and Ladakhi Sculptors. The biographical data include details of the artists' chief or more representative works, with their dates, size, materials, techniques and locations.

Chapter Three (pp. 106-196) is concerned with the study of statuary metals and alloys. It defines the use of and discusses the term "bronze" (3 pages), reviews early brass, copper and bronze statuary from northern India in the light of the available metallurgical analyses (10 pages) and deals with recent metallurgical analysis of Tibetan and Himalayan metal images (6 pages), with particular reference to the Cleveland Buddha (6 pages). After summing up the technological implications of the data taken into consideration (3 pages), it describes the metals and alloys used in great detail, with the location of the mines, methods of extraction, trade, use in statuary, and Tibetan terminology: copper (14 pages); zinc (9 pages); brass (7 pages); tin (2 pages); bronze (13 pages); silver (4 pages); gold (9 pages); iron (3 pages); and mercury (3 pages). Tibetan literary sources as well as Western information gathered in situ are used extensively.

Chapter Four (pp. 199-237) describes the modelling techniques (6 pages), investment and removal of the wax (3 pages), a timed casting (4 pages), and the removal from the mould and cleaning of the cast (4 pages). Nine pages are devoted to gilding and five to the problem of forgeries and conclusions.

Chapter Five (pp. 238-279) is concerned with the sources used by the artists and discusses their iconography (11 pages), iconometry (10 pages), and problems of style (12 pages).

The Bibliography (pp. 280-300) contains 280 entries.

Total number of pages: XIV + 300 with a minimum average of 200 words each and 99 illustrations.

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FOREWORD

When I first visited Nepal in 1972, I was struck by the high standards of workmanship of religious metal images and ritual objects produced by the Newar artists of the city of Pātan. As a keeper of the Aniko Collection (Geneva), I purchased a number of fine contemporary metal images which I exhibited in Switzerland and London in subsequent years. Later, I realized that knowledge of Tibetan or other Himalayan languages is essential to any historical approach to Tibetan and Himalayan art based on literary and epigraphic evidence.

During a fifth stay in the Nepal Valley, in 1977, I spent eight weeks in Pātan in the house of the Newar sculptor Kalu Kuma, interviewing the major artists in the country and visiting their most representative works in the Valley. I was helped in my task by Newar friends, including the scholar Hem Raj Sakya, chief epigraphist of the Department of Archaeology of Nepal. My objectives were to gather biographical information on the main artists active in the Valley and to locate, measure, date, photograph and study as many images as they might have produced. The thesis behind such research was that Himalayan art was still alive, the hypothesis being that the particular forms of Buddhism promoting its creative endeavour still constituted a vital religion.

In 1978, a grant from the Central Research Fund of the University of London enabled me to extend my research to Ladakh, where I applied the same methods as I had used in Nepal: on the basis of the information gathered from the



artists themselves, I located their paintings and sculptures in the various temples and monasteries of the area, where I was able to obtain additional and comparative data. During that summer, I also completed the research started the previous year in Nepal, again spending four weeks in the artists' quarter of Oku Bahal, in Pātan.

Not all the images produced by the best Himalayan artists are commissioned by religious patrons; a large percentage is absorbed into the art market and distributed, directly or indirectly, to collectors, religious devotees, as well as other dealers. This process often raises the apparently inevitable Western question of the "genuineness" of such works of art. The question is naïve to the extent that Himalayan artists have been copying for centuries, not only on account of the iconographic and iconometric rules with which the Brahmanical, Buddhist and Bon pantheons have been codified, but also in a literal sense, as the captions at the exhibition "Dieux et Démons de l'Himālaya", Paris-Munich 1977, clearly acknowledged. Ancient icons were often "replicas"\* of earlier works, although their models cannot always be traced, just as from the VIIIth century Buddhist scriptures were taken into Tibet, faithfully translated, and diffused by copying and, later, by printing. This comparison is not hazardous, because religious images, like books, are supports (Tib.: rten) of the doctrine, and the artists' own need of

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\* Cf. Béguin (1977: 14; 70, Nos. 11, 13, 14, 15, 17; 75, No. 21; 105; 120, No. 99; 30; 124; 127; 132-3, Nos. 103-5; 193 and 195, No. 219; 243; 244, No. 286). Cf. also Pal (1969: 32, 92-3 and 146-7, Nos. 51-4).

### III

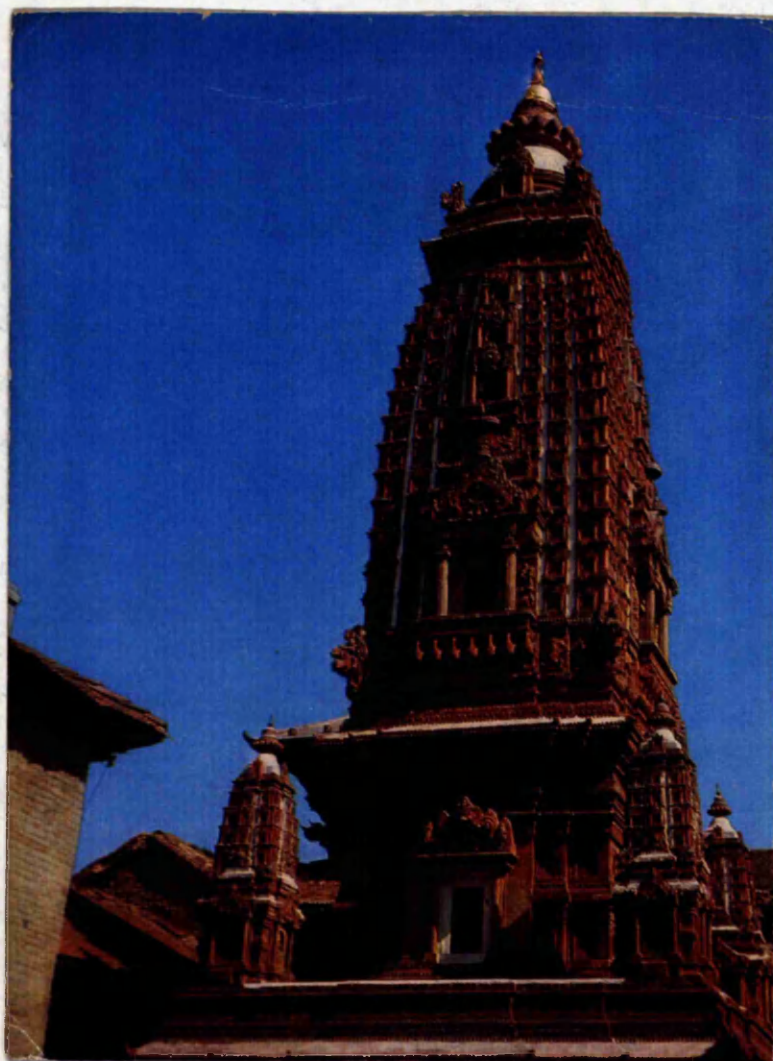
self-expression has no relevance whatsoever to the aesthetics deriving from such a primary consideration.

Referring to Tucci's pictures of altars in Tibetan temples (Tucci, 1949: 172 and 174-5, figs. 1, 2 and 4-14), Pal (1969: 31) reminds us of the fact that the very continuity of styles in Tibetan sculpture was "due to the sanctity attached to particular icons" and points to the "Tibetan sculptor's constant exposure to extraneous influences." Recognizing a particular image of Hayagrīva appearing on a Newar pata as portraying a famous wooden statue from a temple in Bhatgaon, Pott (1971-2: 65) overstates the case by claiming that "whenever we encounter representations on the thangkas from Nepal and Tibet of very important figures from the Buddhist pantheon, we may be sure that they were meant to depict concrete sculptures, venerated by devotees, and not reproductions from miniature illustrations in manuscripts known only to specialists in iconography."\*. The custom of copying from statues must have been common during the early period of Tibetan art, particularly when new sets of divinities, like the sthaviras, were introduced. (cf. Dagyal, 1977, I: 61-2), and the Cleveland Buddha\* itself may conceivably be a copy from an earlier Kashmiri metal image. However, it would be a mistake to confine copying to the early stages of Tibetan statuary. We know, for example, that the Tibetan scholar Tāranātha (b. 1575) commissioned Newar sculptors

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\* The reproduction of particular statues, including the garment and attire they actually wore, was known also in the Pala period (cf. Griswold, 1957: 40).

\*\* See ch. III, p. 124 ff.



The temple of Mahabuddha (Mahābodhi). Pātan. 1935.

"to model a statue of Jambhala, in the Indian style" (Tucci, 1949: 278). A number of XVIIIth and XIXth century Tibetan images in Indian style exist in Western collections (cf., for example, Béguin, 1977: 71 and 73, Nos. 18 and 19; and Sotheby's catalogue of the sale "Lama" of the 23rd June, 1980: 26, No. 36). There is little doubt that other Tibetan scholars before and after Tāranātha were fond of having replicas of images belonging to foreign cultures and styles made\* (cf. ch. III, p. 170, n. 1).

Styles are very persistent in Tibetan art, whether in the surfacing of ancient or alien aesthetic ideas, as in the examples mentioned above, or in the uninterrupted and obstinate use of particular features, as in the landscape of a Tibetan thang-ka dated 1829 and described and illustrated by Pal (1969: 80 and 142-3, No. 34). There is little point in undertaking any historical study of Himalayan art unless it is clearly understood that "the aim of the Tibetan artist (...) was not to create something which expressed his own ideas or personality but to preserve as much as possible the continuity of the tradition in which he had been trained. As a rule there was no desire to innovate or depart from the conventions which had been observed by the previous generations;

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\* On the question of copying, Lowry refers me to an excellent monograph by Griswold (1969: 32-43), who takes copying for granted in Buddhist art. In Lowry's own words, "it is a thoughtful article, which, although about Thai bronzes, has some general application to the making of Buddhist bronzes elsewhere." Griswold (1969: 17-18) draws attention to the fact that the Hīnayāna sculptor "unlike European artists (...) has no desire to be original. On the contrary, he prides himself in being a copyist (...). In this way, a few models would each inspire an endless series of imitations. Some of the imitations might be made not long after the model itself (...) others might be made decades or centuries

to do so would not only have been disrespectful to his religion but also might diminish the efficacy of the image he was making or painting (Lowry, 1973: 6).

Thus the same applies to painting\*, where popular methods of outlining the design on the canvas have long been by "transfer"\*\* and, at least since the XVIIIth century, by printing the whole composition with wood blocks or engraved metal plates in order to meet the growing demand of the Newar and Eastern markets for icons (cf. Tucci, 1949: 417; and Pal, 1969: 26, 30, 68 and 138-9, No. 22). Examples of actual or purported replicas in Tibetan and Himalayan architecture are known too: bSam-yas in Tibet and Mahabuddha in Pātan are the first which come to my mind. The latter is a replica of the Mahābodhi temple at Bodhgaya\*\*\*. The state temple of Paśupatināth served as a model for a number of replicas, including the XIXth century "Nepalese temple" in Varanasi (Wiesner, 1978: 1-2). Since copying is not far short of compulsory in Tibetan and Himalayan art, we cannot associate a criterion of uniqueness with the notion of "genuineness" without falling into the trap of judging religious art in accordance with post-mediaeval aesthetics,

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later.". Thai artists would also "take pains to reproduce the unfamiliar iconography" of alien models.

\* Cf., for example, Béguin (1977: 30 and 127, No. 103), Pal (1969: 50 and 131-2, No. 2), Lowry (1977: 88), and Monod-Bruhl (1954: 6).

\*\* Cf. Stein (1921, II: 969; and LV, pl. XCIV, CH 00159) for the reproduction of a large (2'6" x 4'6") buff paper "drawing used for pounce, representing Buddhist divinities", from Tun-huang. Such a large pounce was presumably used for mural painting, as I saw one used in Leh, in 1978.

\*\*\* Its śikhara was rebuilt after the earthquake of 1934. See also ch. II, p. 63. The temple was originally erected in the XVIIth century (Snellgrove, 1978: 422, No. 340).

or commercial standards based on the law of supply and demand, whereby the value of an object is assessed first of all on the quantitative basis of its rarity and "originality".

Copying has not the same meaning for Himalayan artists as for us, because their eyes have not yet been conditioned by the camera. This allows for a slow process of stylistic evolution, in which sudden returns to more ancient styles may occur. Griswold (1957: 35) shows how Indian Pala-Sena statuary suddenly started being copied in Thailand as late as the second part of the XVth century. The same occurs for XXth century Newar artists, who may be inspired, for example, by the statuary of the Malla period (cf. ch. II, p. 100). However paradoxical that may appear to our post-mediaeval Western eyes, the suggestion is permitted that in Himalayan art authenticity is transmitted through copying and that innovation, rather than copying, should raise the issue of the "genuineness" of individual pieces.

Another criterion by which to establish the "genuineness" of contemporary Himalayan art consists in attempting to ascertain whether the object under consideration has been intentionally made by the artist for ritual purposes. This task is made awkward, if not impossible, by the circumstance that, although artists sometimes receive their orders directly from patrons, they are more often commissioned by middle-men or dealers. In the latter case, the final destination of their work is unknown to them and they are in no position to check whether it will be used for ritual purposes or not. Therefore, not even a criterion of intention can establish the "genuineness" of a religious art object.

A third, rather idealistic, but not altogether naïve criterion in the absence of a seriously scientific one, is that of the "sincerity" of the artist. This issue, questioning whether or not the foremost Himalayan artists live and work with whole-hearted religious faith, cannot possibly be raised by any person having made the effort to watch closely and spend some time with any one of them because, for all their human limitations, their lives are permeated by religion. As to Newar artists in particular, all but one belong to the two upper religious castes of the Buddhist Newar social pyramid, and the one exception, the sculptor Kalu Kuma, is a model of virtuous Buddhist life.

A fourth, and perhaps more significant, criterion is the response of the Himalayan cultures directly concerned to the contemporary production, trade and display of religious images, some of which were not traditionally kept in public places, but worshipped only in the family's private shrine-room (āgama). It has been suggested, for instance, that Newar artists of this day suffer from a "crisis of identity"\*, as they no longer produce images for an exclusively religious market, but depend largely upon the art dealers' demand; and, furthermore, that they would be puzzled and troubled by the sizeable amounts of money spent on the contemporary Western art market for objects which in their eyes do not really look like "art". On the other hand, there is some evidence that

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\* From that same socio-psychological viewpoint, it might be argued that the Newar artists's "crisis of identity" is, at least as old as the loss of Newar independence to the Gorkhas in 1768-9, when royal patronage almost disappeared. If such were the case, and however endemic or institutionalized the crisis might be, the least we can say is that Newar art has survived very well, as the large number of inscriptions dating fine works of art to the last two centuries proves.



the occasional acquaintance with Western art, whether ancient or modern, has stimulated rather than warped the creative efforts of Newar artists, as was the case for the great painter Ananda Muni Sakya (1903-1944) and his son Siddhi Muni Sakya (b. 1933). This need not shock us, because, conversely, oriental influences have "contaminated" Western art at least since the Middle Ages, and art historians would not dream of criticizing, say, St. Mark's Square in Venice for its oriental intrusions and components. As to the change in the nature of their patronage, and its consequence that in the second half of this century artists started to fashion statues for the art market and not only for Buddhist and Hindu devotees, it should be pointed out that a trade of Newar religious art objects existed before the Western demand for Nepalese art increased in the nineteen-sixties\*. The sale of ready-made icons to pilgrims in holy places, as may be observed today at the entrance of the Paśupatināth temple in the Nepal Valley, is not a recent phenomenon. At Bodhgaya, for example, replicas of Śākyamuni in bhūmiśparsa mudrā in typical Pala-Sena style were carved in high relief on slabs of black stone for sale to wealthy pilgrims (Griswold, 1957: 37). Although collecting Himalayan art is a Western hobby at least one century old, Buddhist and Hindu pilgrims and travellers today purchase religious ready-made art objects from the very same Newar shops which also sell them to Westerners or export them to

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\* An "image factory in Nepal", for example, is mentioned by Majumdar (1926: 426).



the West. Artists and local dealers do not appear to be shocked by the importance of the role they play in supplying a world-wide art market with religious images. Instead, they have been puzzled by the Western demand for antiques, because their evaluation of ancient idols is not based on criteria of rarity or age, but rather on the sanctity they may have acquired through their reputation. After all, "art collecting" with its Western connotations is hardly conceivable in the Nepal Valley, where art treasures are on permanent display at almost every street corner, some of them produced by XXth century artists. The private shrines of Newars, Tibetans, Ladakhis and Bhutanese are often furnished with XXth century idols, as the age of a ritual support of meditation does not matter to them as much as its real function. It is true that many Newars resent the occasional display in art dealers' shops of divinities such as Śamvara, which would never be publicly shown because they are the object of a special veneration. The sculptor Kalu Kuma, who excels in the modelling of yab-yum deities, has failed to produce an image of Śamvara for that very reason. In addition, it is undeniable that once upon a time orders would be placed with an artist or workshop, and art objects could not be found in the bazaar. Candler (1905: 339) noticed how British officers of the Younghusband expedition haunted the Lhasa "bazaars searching for curios, but with very little success (...) Religious objects are not sold.". However, for popular deities which need no secret worship, the issue is clear-cut and there is no question of raising any artificial barriers between what is more sacred and what is less sacred, or even between

what is "intentional" and what is not. To the man in the street, all gods are worthy of devotional respect, no matter what the nationality or creed of their buyer might be\*.

In view of the above considerations, I have come to take a rather pragmatic attitude towards the question of "genuineness", and to be slightly wary of value-judgements and Western aesthetics applied to oriental art. I eventually reached the conclusion that discriminating between "genuine art" and "art for tourists", "good art" and "bad art", and, even worse, between "originality" and "imitation" in the field of Himalayan religious art today, is a pastime which ought to concern art dealers rather than art historians. In the hands of any scholar with a seriously scientific approach, it may turn into a futile exercise. Accepting Wittgenstein's view that metaphysical and ethical propositions cannot be expressed by language, I have limited myself to gathering facts and comparing data about something whose reality and strength seem to be beyond any doubt, namely, Himalayan religious art.

Scholarly assessment of the present state of Newar art is not unanimous. Nepali (1965: 53) suggests that "the metal

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\* A curious and significant incident occurred at Tribhuvan airport on my departure from Kathmandu on September 28, 1978. The customs officer inspecting my luggage insisted that I should remove a rubber shoe-sole which was protecting a few contemporary brass images which I had purchased in Pātan: "They are gods!", he repeatedly exclaimed. To me, that was the final answer to the question of whether any icon, irrespective of its age, is "genuine" in the eyes of the people to whose culture it belongs, as long as that culture is alive.

and wood-working occupations being in the hands of the higher castes, the specialization and the great skilfulness acquired in these fields are bound to languish, since they have the best opportunity and means for higher education which naturally favours an intellectual and modern type of occupation. The process of traditional knowledge and expertness being handed down from father to son in matters of arts and architecture is threatened, since educated men have a tendency to despise such hereditary avocations.". Nepali (1965: 423) further maintains that "the Newari artisans are slowly abandoning their hereditary occupations in favour of more gainful employment. This brings us to another point: namely the need to preserve their craft-skill which made them widely famed people.". These statements are based on material collected by Nepali for the Ph. D. thesis he submitted in 1959, on the eve of a renaissance of Newar metal statuary. Singh's remark that "the religious art of Nepal is even today a living reality" (Singh, 1971: 223), is strongly contrasted by Kramrisch's assertion that "no living art supports (...) any longer" the "seasonal rites and festivals" of Nepal (Kramrisch, 1964: 49). Kramrisch's claim coincided with a period of extensive activity for a number of the Newar artists reviewed in this thesis. To establish the truth, I was obliged to break the anonymity surrounding traditional Newar art. Having managed to locate a fair number of statues and paintings scattered not only over Nepal, but also in India, Bhutan and other parts of the Himālayas and the West, I was appalled to find that, apart from Alsop and Charlton (1973), no art historian had seemingly

attempted to establish the validity of the above statements by means of serious and systematic research in the field, or even tried to apply methods which are traditional in the study of Western art to the scrutiny of XXth century Newar art. The only two serious studies existing on the subject were an article by Alsop and Charlton, mentioned above, and another by Labriffe-Aris (1973).

The main criterion which I decided to adopt in the end was based on the assumption that if the artists and their materials, techniques, iconography and iconometry are the same today as they were in the past, all other criteria became irrelevant. As I see it, live tradition alone is sufficient to guarantee the continuation of the past into the present and may justify the existence and study of XXth century religious Himalayan art in its own right. Subsequently, I became aware of the possibility that a detailed study of present-day artists and their materials, techniques, and iconographic and iconometric sources, may also serve as an irreplaceable platform wherefrom to delve into the art of the past, and may help to put it in a better perspective than that provided by the history of aesthetic ideas alone.

No less strong for me than the spell cast by the study of ancient art is the fascination of dealing with living artists, to which I may add the feeling that a too exclusively archaeological interest in any cultural heritage may easily lead to overlooking its less remote aspects and present impact, in other words, all that keeps it alive. The study of a contemporary artistic tradition has the undeniable advantage of availing itself of first-hand material and of

dealing with certainties more than with guesses, at the same time offering the challenge of discovery. The choice of XXth century Himalayan art as a subject for study cannot be dismissed for its being in fieri, because its static quality hardly allows it much development. Furthermore, twenty years after the Chinese began introducing their sets of values into Tibet and north-eastern Ladakh\*, one hundred and fifty years after Ladakh was lost to Jummoo and Kashmir, and two centuries after the Hindu Gorkhas conquered the Hindu-Buddhist Newars - not to mention the annexation of Sikkim by the Indian Union in 1975 - it is urgent to make a survey of what survives of the religious artistic tradition in the Himālayas before it is too late. It ought to be mentioned here that being unable to visit Tibet proper is not necessarily a disadvantage in the study of XXth century Himalayan religious art, because, as a manifestation of traditional Tibetan culture before the Chinese invasion of the country, it certainly survives in a more traditional form outside Tibet itself (cf. Denwood, 1978 repr.: 2). Furthermore, quite apart from any academic preoccupations, it is vital, for the purpose of preserving high standards of craftsmanship, that Western collectors and museums start to recognize and patronize its foremost representatives.

The recent problem of forgeries cannot be tackled without taking into account the above considerations. The appearance

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\* In 1959, Chinese forces occupied a sector of south-eastern Ladakh and built a road across it. In 1962, China invaded and annexed some 28.500 square kilometres of north-eastern Ladakh, the desolate high plains of the Aksai Chin. North-western Ladakh had already been seized by Pakistani forces in 1947.

of more or less sophisticatedly antiqued Himalayan sculptures and paintings on the international art market depends largely upon commercial and aesthetic values peculiar to the West. Any art critic refusing to acknowledge and support contemporary Himalayan art not only does a blatant injustice to its practitioners, but also encourages a handful of dealers and forgers to make a living out of the trade of fine sculptures and paintings antiqued without the knowledge or consent of the artists, just for the sake of making them more palatable to Western tastes.

If Western collectors and tourists are not ready to purchase and pay for the fine art pieces produced by contemporary artists, and persevere in wanting to empty the Nepal Valley of its ancient treasures with the weapon of money\*, Newars will continue to defend themselves in the only way which is left to them, by making look old and dirty an art which some Westerners can appreciate only when old and dirty.

An alternative to the latter, alas rather common, attitude of mind is the responsible approach of people like John Sanday, the British architect in charge of the restoration of Hanuman Dhoka, the Royal Palace of Kathmandu, under the

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\* Cf. Lockwood (1979: 16): "Foreign buyers continually bribe poorly-paid guards and civil servants for precious bronze and wooden statues (...) It is now rare to find a temple that has not been scarred by theft or decay."

sponsorship of U. N. E. S. C. O. Notwithstanding initial difficulties, Sanday (1974: 12) managed to find and train excellent artisans from the Silpikāra caste\* to restore and clean the hundreds of wooden carvings of Hanuman Dhoka, a delicate task whose splendid results may be admired particularly by those who have seen the palace before and after the completion of the restoration project. Sanday also rediscovered the ancient technique of brick-making and prepared a body of skilled artisans to carry on conservation with traditional methods in the future, and avoid that kind of dependence upon financial assistance which has made of Venice an international beggar.

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\* Sanday's statement that the "Silpkar caste (...) is a stone masons caste" is contradicted by Lévi (1905, I: 233, No. 21), who simply defines it as a class of artisans in the traditional system devised by the Mallas in the XIVth century. The name, however, does not seem to be used to designate a particular caste in any study of the XIXth and XXth century Newar caste system. Furthermore, Lévi (*ibid.*: 241, No. 21) and Hodgson (in Chattopadhyay, 1923: 516) mentions the Lohankarmi as stone cutters and builders for private and religious purposes, and stone workers, but nowhere does Silpikara appear as a name indicating any actual caste of our day, or in connection with stone work. On the Sikarmi caste of carpenters and wood carvers, see ch. I, p. 27.

## Chapter I

### NEWARS AND TIBETANS: A HISTORICAL SKETCH OF THEIR RELATIONSHIP AND KINSHIP WITH PARTICULAR REFERENCE TO ARTS AND CRAFTS

#### In Tibet

In 1721, the Jesuit missionary Ippolito Desideri received the order from Rome to leave Lhasa and return to Europe. Desideri, who had reached Tibet via Ladakh, went back via Nepal, through Bhatgaon and Kathmandu. During his stay in the Nepal Valley, he noticed that the "Newars are active, intelligent, and very industrious, clever at engraving and melting metals" (de Filippi, 1937: 314), although he found them guilty of various faults and did not quite appreciate their peaceful nature. Desideri's remarks are amongst the first European impressions of the Newars, and precede by about fifty-five years the Gorkha conquest of the Newar city-states in 1768-9. Twenty-four years after Prthvi Nārāyan had managed to overcome Newar resistance completely, through treason and slaughter, Colonel Kirkpatrick similarly noticed that the Newars "are a peaceful, industrious, and even ingenious people" and doubted "whether this nation have been at any period of a war-like disposition (...) Their occupations are chiefly those of agriculture, besides which they almost exclusively execute all the arts and manufactures known in this country." (Kirkpatrick, 1975 repr.: 186). Kirkpatrick did not fail to realize that Newars "work very well in iron, copper, brass &c. and are particularly ingenious in carpentry, though it is remarkable that they never use a saw, dividing their wood, of whatever size, by chissel and mallet. They export to the southward some of their brazen utensils..." (Kirkpatrick, 1975 repr.: 210). Kirkpatrick's observations still hold true now, about one hundred and ninety years after his mission to Nepal. The Newars are a peaceful and sincerely religious people, of which the Jyāpus, or cultivators, constitute by far the majority of the population, the rest belonging to various occupational groups, including several classes of craftsmen.

The excellency of Newar craftsmanship was noted as early as the VIIth century by two well-known Chinese pilgrims,



Hiuen Tsiang\* (or: Yuang Chwang) and I Tsing, who never visited Nepal, but obviously gathered their information from Indian sources (cf. Lévi, 1905, I: 152-3). The earliest first-hand account of Newar architecture and statuary is probably based on the observations of the Chinese envoy Wang Hiuen-ts'e, who was in the Nepal Valley on more than one occasion, once on his way to India at the head of a Chinese mission which was sent there by imperial order in 657 (Lévi, 1905, I: 157): "In the capital of Nepal\*\* there is a construction with storeys (...) divided in three terraces, and each terrace is divided into seven floors. In the four pavilions there are statues to amaze you. Stones and pearls decorate them" (cf. Lévi, 1905, I: 159). Since then, most serious scholars and visitors to Nepal have not failed to notice the high standards of Newar arts and crafts\*\*\* and, commenting on the remarks made by the two above mentioned Chinese pilgrims, Snellgrove (1957: 102) concludes: "The Newars are still good craftsmen...".

From the XIth and XIIth centuries, "Newār craftsmanship (...) began to amalgamate with Tibetan craftsmanship with the result that a single indistinguishable style was created" (Snellgrove, 1978: 352), thus constituting a particular tradition which has prospered alongside the production of more typically "Tibetan" and "Newar" images. How did this amalgamation into one Tibeto-Newar style come about? To answer this question, I shall review very briefly the artistic as well as

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\* Cf. Beal (II: 80): "They are unlearned but skilful in the arts." Cf. also Watters (1905, II: 83). With regard to the former point, Hiuen Tsiang somehow contradicts himself by adding that Aṃśuvarman (610-639 A.D.) was distinguished for his learning and esteemed learning (Si-yu-ki, end of Book VII).

\*\* Pātan was probably the capital of Nepal under Narendra deva (c.645-680), to whose reign the Chinese account actually refers.

\*\*\* Cf., for example, Wright (1972 repr.: 46) and Lévi (1905, I: 249 and 306). However, few of the scholars who visited Nepal acknowledged the originality of Newar art, which they dismissed as having been derived from India or China: "The Newars (...) have made many attempts at the fine arts, in which they have followed chiefly Chinese, but also Indian models" (Hodgson, 1972 repr., II: 33).

the ethnic, economic, social and religious interaction which has characterized the relationship between Tibetans and Newars for over a millenium until this day, my hypothesis being that the study of arts and crafts cannot be separated from the history of the people and societies which produce them. In particular, I shall provide some documentary evidence to establish the truth of the assumption that "for the past thousand years or so Nepali metalsmiths have remained the principal image-makers in Tibet." (Pal, 1974: 31).

According to traditional accounts, "the first Buddha images were brought to Lhasa from Nepal in the first half of the seventh century" (Snellgrove, 1978: 351) and others were brought by king Srong-brtsan-sgam-po's Newar queen. The holiest image in Tibet, known as Jo-bo, the "Lord", which purportedly represents Śākyamuni as a young prince, is reputed to be one such figure. Although "it is fairly certain that there were already trading connections between Nepal and Tibet long before the Tibetans became a recognized political power" (Snellgrove and Richardson, 1968: 26), the presence of Newar sculptors in Tibet from the early VIIth to the mid-IXth centuries is frequently mentioned in Tibetan historical works. For example, the Tibetan king Srong-brtsan-sgam-po (627-649) "commissioned the celebrated Nepalese craftsman Khre-ba to have eleven images of Avalokiteśvara made which were to be of the same size as the king himself" (Dagyab, 1977, I: 36). Norbu and Turnbull (1968: 143) state that Newar "architects and builders and all the necessary craftsmen were sent from Nepal" for the work on the Jo-khang during the first half of the VIIth century. A Newar (Tib.: Bal-po) artist is mentioned in the sBa-bzhed in connection with the erection of statues for a temple to Āryāpalo built on the south face of bSam-yas by Khri-srong-lde-brtsan in 775 A.D. (Karmay, 1975: 4 and 112, l. 7). By then Newar statuary was highly thought of in Tibet and, half a century later, king Khri-gtsug-lde-brtsan\* (Ral-pa-can, 805-836) invited Newar sculptors to work on **stone** (Stein, 1962: 245) and to contribute to the construction of

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\* Béguin (1977: 125) confuses this king with Khri-srong-lde-brtsan (742-798), who "retired from public life in 797 (...). Some sources say that Khri-srong-lde-brtsan died at Zungkar the following year" (Shakabpa, 1967: 46).

his own Buddhist temple called dPe-med-bkra-shis-dge-'phel in 'U-shang-rdo (Karmay, 1975: 5)\*. In later times, Newar craftsmen "brought many skills to Tibet, especially that of metalwork." (Snellgrove and Richardson, 1968: 50).

During the Sa-skyā period, teams of Newar artists "were invited by the abbots of those monasteries" (Tucci, 1949, I: 277-8). In the XIIIth century, the abbots of the monastery of Sa-skyā "became the first accredited representatives of Tibet at the court of the new Mongol (Yüan) dynasty in China, and for their task of converting those barbarian overlords to the Tibetan religion, they took with them not only scholars but also craftsmen, some of whom came originally from Nepal." (Snellgrove, 1978: 352).

In 1260, Qubilai Khan, the great ruler of China and suzerain of the Mongol states and of Tibet, requested his spiritual teacher, the Sa-skyā abbot 'Phags-pa (1235-1280), to erect a "golden pagoda"\*\*\* (Lévi, 1905, III: 187) in Tibet. One hundred Newar artists were to be found and sent for that task, and the king of Nepal managed to collect eighty of them. He chose to head them a member of the royal family, Aniko

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\* The historicity of many of these statements may be called into question because of the lateness of the available sources, but there is no intrinsic reason to cast doubt on the presence of Newar craftsmen in Tibet during the early kingdom.

\*\* A stūpa, according to Petech (1958: 99) and all those, like Karmay and Béguin, who follow Tucci (1949, I: 277-8 and 1967: 100). The figure of twenty-four artists as given by Tucci is surprisingly not questioned or discussed by Karmay (1975: 21) who is followed by Béguin (1977: 105). Yet Lévi unequivocally translates "eighty" from the Yuanshi, ch. 203, end (Lévi, 1905, III: 187), and so does Petech (1958: 99), followed by Pal (1974: 31). The only explanation which may account for this discrepancy is that Tucci translated Lévi's "quatre-vingts" as "twenty-four" instead of "eighty". Bagchi (1935: 89) probably set the example. The high number of artists suggests a complex construction, not unlike the sku-'bum of Gyantse built in 1427 (Karmay, 1975: 27; however, cf. Wylie, 1962: 139, n. 219), with profusely decorated chapels (cf. Govinda, 1979, I: 76-86 and 88-98), or Byams-pa-gling (cf. Tucci, 1952: pl. opp p. 84), founded in 1472 (Ferrari, 1958: 133, n. 322). However, it should be noted that Aniko's team completed its task in less than two years, whereas it took ten years to build the sku-'bums at Gyantse (Karmay, 1975: 34, n. 130).

(1245\*- March 11, 1306) who, though then aged only seventeen, had specifically requested to lead the team. In spite of his youth, Aniko was already an accomplished draughtsman, modeller and metal caster\*\*. The team arrived at Sa-skya in 1261\*\*\* and the following year the stūpa was completed under the direction of Aniko, who then requested permission to leave. However, his success was such that 'Phags-pa insisted that Aniko, by then nineteen, should follow him to China; furthermore, he consecrated him and accepted him as a disciple. Aniko agreed, was introduced to the emperor and entered his employment. Aniko's first task was to restore a copper anatomical statue, a job which he completed with great success in 1265. The model was thoroughly renewed in all its anatomical details. Aniko cast many statues for the Buddhist monasteries of Shang-tu and Ta-tu (Peking) and in 1274 he was appointed general director of all the metal workers until, in 1279, he was given back his lay status in order to become controller of the imperial manufacturers. In 1304, Aniko was requested to manufacture and restore a large number of images for the Sanging temple. In connection with this project "one hundred and eighty-one images altogether are mentioned, of which thirteen were for the main temple.". One year later, he and other artists were ordered by imperial decree to cast six more copper images (Karmay, 1975: 23). His favour continued

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\* For this date, see Petech (1958: 100, n. 1). Although accepting 1306 as Aniko's date of death, Karmay (1975: 23) reports that he is mentioned in the Yuandai huasu ji as having been commissioned "to paint, among other things, portraits of the emperor Renzing (...) and his empress" in 1320!

\*\* Cf. the Yuan Annals, ch. 203, end, as reported by Lévi (1905, III: 187-9). It is not rare for Newar craftsmen to reach a high degree of expertise at a very young age (see below, ch. II). It appears that Aniko was also an expert in "weaving in brocade" portraits of emperors (Pelliot, 1923: 194, n. 1). This may suggest that the antecedents of embroidered thang-kas go back to the XIIIth century. Aniko is mentioned as being a "painter" by Rémusat (1820, I: 197-8).

\*\*\* At least one year must have elapsed since the original order by Qubilai, for the organization of the team by the king of Nepal, until its arrival in Tibet, and Petech suggests 1261 as the date of Aniko's arrival at Sa-skya (Petech, 1958: 100-1, n. 1).

until, and even after, his death, for he was granted various posthumous titles. The six sons whom he begot from his wives (one Nepalese and one Mongol chief wife and seven secondary wives) followed in the official steps of their father. One kept the salary of a controller and another became general director of the artisans of all classes. However, the real successor of that prestigious master was his chief pupil, the Chinese Liu Yuan\*. The tradition of Aniko "lasted for a long time among the Buddhist sculptors in China, and is still upheld in the introduction to an XVIIIth century iconometric treatise, the Tsao-hsiang-tu-liang-ching" by mGon-po-skyabs (c. 1690-1750) (Peteich, 1958: 101 and Karmay, 1975: 23). Among the works attributed to him are the design of the White Stūpa (Baida) of Peking (cf. Karmay, 1975: 21) and, perhaps, the screen behind the Jo-bo in the Jo-khang of Lhasa (Richardson, 1977: 169). It is very likely that Chinese Buddhist metal images such as the British Museum Yung-lo Manjusrī illustrated by Pal ("Bronzes of Nepal", 1974: 31) were made "according to A-ni-ko's manual".

The story of Aniko is emblematic of the continued close connections between Newar artists and the great monastic centres of Tibet, and serves the purpose of explaining the extent of the interpenetration of Newar and Tibetan influence to form a style which cannot be defined as "Newar" or "Tibetan" and for which I have found it convenient to use the term "Tibeto-Newar". The seventy-nine Newar artists returning to

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\* On this artist, see Pelliot (1923: 195-7).

the Nepal Valley after a two-year stay in Tibet are likely to have brought back new ideas with them. Such was the case with the Newar painter Jivarama who, in April 1435, compiled a sketchbook, including sketches probably made during a stay of his in Tibet which betray Tibetan and also Chinese influences (Lowry, 1977: 83-118). Conversely, Newar influence on Tibetan and Chinese statuary and even painting (cf. Lowry, 1973. XIX/3: 305-15) persisted through the Yuan period (1279-1368) and was undoubtedly present during the Ming period (1368-1644; cf. Béguin, 1977: 105), particularly under the Ming emperor Yung-lo (1403-1424). The reputation of Newar metalwork reached even Mongolia, independently of the inheritance of any academic literary tradition referring to it, as is shown by the following verses, drawn from the popular "Benediction of the Tent":

"Let us anoint the shears,

Hammered by a smith of Nepal,

Pinned by a smith from Kashmir"\*

(Finnegan, 1978: 49). Indeed, "the potential Buddhist market, extending from the thirteenth century into Mongolia and and Mongol-ruled China, far exceeded the limitations of the small Kathmandu Valley, which was still the only Nepal of those days" (Snellgrove, 1978: 339).

The custom of patronizing well-known Newar artists never lapsed in Tibet. From the biographies of the more

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\* I am grateful to Prof. Bawden for drawing my attention to those traditional Mongol verses.

famous abbots, founders of new monasteries in central Tibet, it appears that Newar painters were often invited to decorate them with murals and statues. Sometimes the actual names of the artists were recorded, as is the case with those who decorated the temple built by Kung-dga'-bzang-po (1382-1444; Tucci, 1967: 100), the founder of the Ngor monastery (1429). During the lifetime of the II<sup>nd</sup> Dalai Lama, dGe-'dun-rgya-mtsho (1475-1543), Newar sculptors made two well-known statues in the bKra-shis-lhun-po monastery: a twenty-five cubit high statue of Maitreya and one of White Tārā (Dagyab, 1977, I: 36). The activities of Newar artists were extended, as they are now, also to rather remote areas of the Himālayas: in c. 1565, for example, Newar sculptors were called to Dol-po, then part of Tibet, to make a gilded copper statue of Maitreya "one storey tall", after the death of Chos-skyal-dpal-bzang (1476-1565), the Sa-skyā abbot of Margom, Yang-tsher and Tha-kar (Snellgrove, 1967, I: 180). It is not surprising that Pal finds it "difficult to determine whether a sculpture as obviously Nepali as the Tibet House Buddha (...) was cast in Tibet or transported there from Nepal." (Pal, 1969: 33; cf. Pal, 1974: 32)\*. Mobility was by no means confined to Newar painters, for sculptors and statues travelled great distances too, even as far as Kashmir (see ch. II, p. 84) and Bhutan. In Bhutan "even after 1616 the first workshops

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\* On specifically Newar statuary works in a number of monasteries in Tibet, cf., for example, Tucci (1952: 58, 78, 80, 102, 104, 105, 108, 109, 110, 115, 116, 117, pl. opp. p. 132, 133, etc.).

were only informally set up whenever a special need arose, and skilled Newar artisans were inticed (sic) to Bhutan from Nepal and Tibet, probably with offers of generous salaries." (Ardussi, 1977: 246). In c. 1632, the Zhabs-drung of Bhutan took his vows in front of a reliquary of Newar workmanship (Aris, 1979: 219 and 210, pl. 22). A "particularly important project was the erection in 1691 of new temples and images at the gdan-sa-phan-tshun by Newari craftsmen from Bhatgaon. Already ten years earlier Nepalese artisans had completed the great golden dome\* for the dbu-rtse at Punakha..." (Ardussi, 1977: 374; see also below, ch. II, p. 64, n. 1). Pieces of undoubted Nepalese origin were scattered in Tibet as far as Dar-rtse-mdo (Ta-tsien-lu), from where they were sent with tributary missions to Peking (cf. Ronge, 1978: 129).

In 1590, a formal treaty between Tibet and Nepal "secured some kind of extra-territorial rights for Nepalese tradesmen and craftsmen resident in Lhasa, which gave a still further impetus to their crafts of image-casting, metal-work, especially in silver and gold, wood carving and jewelry." (Snellgrove and Richardson, 1968: 202). It is not clear whether the treatise referred to by Snellgrove and Richardson is the same mentioned in the Vaṃśavalī translated by Wright (1972 repr.: 211-2). Bhima Malla, the minister of the King of Kathmandu, Lakṣmī Narasiṃha Malla (1620-1641), "sent traders" to Tibet, went to Lhasa and, "owing to his exertions, the

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\* Mistranslation for "roof". I am grateful to Philip Denwood for drawing my attention to these passages.



property of Nepalese subjects dying at Lhasa was made over to the Nepalese government" instead of being forfeited by the Tibetan authorities (cf. Lévi, 1905, II: 250). According to Lévi (1905, I: 172), "trade relations united Nepal and Tibet from the beginning of the XVIIth century. Around the year 1600, when Śiva Simha Malla reigned in Kathmandu, the journey from Nepal to Lhasa was still considered a difficult undertaking". The traffic between Nepal and Tibet had become very active by 1650 (cf. Lévi, 1905, I: 173). Tāranātha (b. 1575) himself commissioned Newar sculptors to make a statue of Jambhala "in the Indian style" (Tucci, 1949, I: 278), a circumstance showing the ability and willingness of Newar sculptors to adapt to different statuary traditions: "the greater freedom they are permitted by tradition, the greater is the scope for the exercise of their skill" (Snellgrove, 1978: 343). He also commissioned seven Newar artists to make as many haloes to be placed around the heads of some statues. A touching account, for anyone who has experienced the excitement and apprehension characterizing the casting of metal images in Nepal - when in the lapse of a few minutes the work of weeks or months is put at stake - is provided by a passage in the autobiography of the 1st Panchen Lama, Blo-bzang-chos-kyi-rgyal-mtshan (1567-1662). He witnessed the casting of an image of Maitreya by Newar sculptors in 1604, and gives a vivid description of their despair when they thought that the molten copper had not reached the inside of the mold at all, and of their joy when, impatiently breaking its clay before it could cool down, they realised that their efforts had been rewarded

by a brilliant success (cf. Maconald and Stahl, 1979: 32).

The activities of Newar metal-workers were not confined to the larger and smaller monasteries of southern and central Tibet. In 1625, the Portuguese Jesuit, Father Antonio de Andrade met "three or four" Newar artisans whom he commissioned to make a cross for himself (Pereira, 1926: 96-7). The artisans called such crosses "iamdar" and Lévi (1905, I: 80) equates them with the Indra crosses noticed by the XVIIIth century Capuchins in Nepal as described and illustrated by Giorgi (1726: 203), who mentions that they are erected during the festival of Indraajātrā (Bhadra, August-September) and regards them as Manichean effigies used to crucify the "Principles of Darkness" in the firmament. These Indra "crosses", again mentioned by Lévi (1905, II: 53) in his description of the Indra festival in Nepal, are explained as a display of Indra imprisoned with "outstretched arms" during the Indraajātrā by Nepali (1965: 36), who relates that custom to a legend and illustrates it with a picture (ibid.: plate between pp. 96-7). Furthermore, the Newar artisans specifically mentioned to Andrade that there were many such iamdars in their country, that they made very large ones, in wood or various metals<sup>xx</sup> and that they kept them inside their temples. During Indraajātrā, the idols of Indra with outstretched arms and "usually wound with threads signifying that he is in chains" are displayed out of

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<sup>xx</sup> Indra is portrayed with outstretched arms also in Newar metal statuary (cf. Kramrisch, 1964: 76, No. 33), although Kramrisch (1964:135, No. 33) gives another legend to explain his mudrā (cf. Nepali, 1965: 359). An XVIIIth century frontally gilt copper statuette of Indra with outstretched arms is kept in the Indian Department of the Victoria and Albert Museum (Reg. No. I.S. 1-1966).

the temples on high poles "at every square of the locality" (Nepali, 1965: 360). Undoubtedly, the Newar craftsmen mentioned the Indra crosses recognized by Lévi, and Andrade gives an account of their worship in the streets during Indraajātrā.

In the light of the presence of Newar craftsmen at Tsaparang in the XVth century, it would be interesting to speculate on the manufacture of such gilded metal images of Śākyamuni and Tārā as those illustrated by Govinda (1979, II:160 and 162) and on the possible Newar stylistic influence on other statues to be found in western Tibetan monasteries (Govinda, 1979, II:164), for two reasons: firstly, it is likely that the team met by Andrade had faced a journey of two months to manufacture something rather important; secondly, although in recent years a number of statuettes have been described as "western Tibetan" (cf. ch. III, p.121), it seems that, when we leave out the Indo-Tibetan style of Kashmiri derivation, there is very little typically Tibetan metal statuary in western Tibet\* and Ladakh. In the absence of

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\* The brass statuettes which continue to be regarded as "western Tibetan" often bear around them a floating scarf whose shape conjures up the outline of stupa domes. This peculiarity, as well as their general style, does not appear to correspond to anything, whether Kashmiri, Ladakhi or actually western Tibetan, to be seen on the shrines illustrated in relevant books by Tucci, Snellgrove and Skorupski, and Govinda (1979, II: 153-181 and 183). Indeed, the above mentioned scarf motif, to mention only one stylistic feature of the so-called "western Tibetan bronzes", is conspicuous by its absence from all western Tibetan statues and statuettes to be found in loco, whether made of metal or of clay.

epigraphic evidence, I can only suggest that some of the metal statues of Tsaparang may be yet another contribution of Newar sculptors to Tibetan art. The question is open, and until their movements in Kashmir\* and Ladakh are better known, there is little point in yielding to speculation. I should like to mention, however, that the activity of Newar metal-workers in Ladakh was reported by one of my Ladakhi informants\*\* without my initiating any conversation on the subject. I was told that the craftsmen of the hamlet of Chhiling, who, incidentally, are mentioned by Pallis (1942: 294, 296, 331 and 349) as producing the only "high-class copper and silver" as well as gold work for all Ladakh, claimed to be descendants of Newar craftsmen. In this connection, it may be interesting to note that, according to Abercrombie (1978: 345), Ladakh's largest metal image, a gigantic statue of Śākyamuni in the monastery of Shey, was erected in c. 1633 "by craftsmen from Nepal". This image is described as "not very beautiful" by Snellgrove and Skorupski (1977: 89), who attribute its erection to bDe-ldan. Although Abercrombie's date is about fourteen years prior to the foundation of the main temple in the Shel-dkar palace, in February 1647 (Peteck, 1977: 58), it indicates at least that there is probably a local tradition referring to the activities of Newar craftsmen in Ladakh, dating back to the first half of the XVIIIth century, at a time when their presence in Tsaparang is attested by Andrade. In the light of these considerations, there is

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\* Cf. ch. II, p. 84 .

\*\* Rig-'dzin-dbang-grags, secretary of the Handicrafts Centre, in Leh.

no reason to dismiss a priori Abercrombie's mention of Newar sculptors in Ladakh as unfounded, although his reference must be derived from an oral tradition, as I have not been able to trace it to any of the available relevant sources. Finally, I should like to draw attention to a Newar image of Tārā (British Museum Reg. No. 1931.6-9.14) collected in Ladakh, which is described as "Nepalese" in the British Museum catalogue. That description appears to be correct not only in view of stylistic considerations, but also for some typically Newar technical features: it is cast in copper, mounted with an aura on a repoussé stand and gilded only frontally, with traces of red pigment on the back of the aura and stand.

In their chapter dedicated to the cultural exchanges between Nepal and Tibet, Macdonald and Stahl (1979: 33) suggest that "The influence of Newar painters in Tibet from the mid-16th century onwards seems to have been slight", though they mention the names of three Newar painters who participated in the painting of the murals of bKra-shis-mthong-smon as late as 1630 (Macdonald and Stahl, 1979: 32). Their suggestion is correct in that "very little Newar Buddhist painting has survived that has not been absorbed into the very much larger and more active Tibetan tradition of religious painting" (Snellgrove, 1978: 343). However, it should be noted that even after the Gorkha take-over of the Nepal Valley in 1768-9 "and the consequent loss of patronage of leading Newārs, Newār painters, relying on a Tibetan market, produced works in the related style, itself one of

Newār origin, and all distinction between Newār and Tibetan styles was finally lost" (Snellgrove, 1978: 343). There are a number of dated thang-kas painted in this Tibeto-Newar style, rather common during the XVIIIth and XIXth centuries, and "they can be recognized as Newār only by an inscription if present" (Snellgrove, 1978: 343). A few Newar painters in the Nepal Valley can still paint in that particular style. In any case, "the work of Newar metal workers in central Tibet continued to be important well into the 20th century" (Macdonald and Stahl, 1979: 33) and "in metal-casting and wood-carving the Newārs have remained complete masters of their craft" (Snellgrove, 1978: 343). The names of eight Newar sculptors are recorded in the autobiography of the Vth Dalai Lama, Ngag-dbang-blo-bzang-rgya-mtsho (1617-1682), under the year 1659: besides other images, they also made a portrait of him. Thus the Newar "manner was constantly kept alive by an unbroken flow of artists, paintings or statues ordered by commission to the Buddhist community in Nepal, by the study of models, existing in great numbers in public and private chapels, by the inspiration Tibetans could find in the miniatures of manuscripts" (Tucci, 1949, I: 278). This happened all the more easily as "communities of Newār craftsmen settled in Lhasa, where there was always great demand for their productions (Snellgrove, 1978: 352). From the time of the Vth Dalai Lama onwards, a colony of Newar artists was established in the 'Dod-'jo dpal-khyil ('Dod-dpal), the metal workshop and mint at the foot of the Potala (cf. Dagyab, 1977, I: 57). The story goes that the XIIIth Dalai

Lama (1876-1934) replaced the Newars with Tibetan artisans in an attempt to promote Tibetan arts and crafts, and changed its original name of sDod-bal-khang, "Newar home of residence", into the present one (Ronge, 1978: 129). The influence of three hundred years of Newar metal work monopoly was reflected, however, by the fact that most of the names of craft tools were known with Newari words (cf. Ronge, 1978: 129).

Commercial relations between Tibet and Nepal were re-organized during the reign of Pratap Malla (1641-1674) of Kathmandu. A treaty between Kathmandu and Tibet signed at that time "stipulated that Tibet should use no other route in its trade with India. A colony of Newar merchants had then been settled in Tibet, and soon Bhadgaun (sic) and Patan too began to participate in such trade." (Regmi, 1971: 24). Traditional items of trade between Nepal and Tibet during the XVIIIth century included metal-ware and ivory goods (Regmi, 1971: 25). From the XVIth to the XXth century, "a large share of the commerce between northern India and central Tibet was channeled" through the Nepal Valley. "Lamaistic monastic institutions in Tibet, Newari commercial families" in the Valley "and Hindu and Muslim trading communities in north-central India coöperated in the operation of a complex, highly profitable trade structure" (Joshi and Rose, 1966: 15). In the Nepal Valley, "a sizeable number of weavers, metal workers and other artisans were engaged in the production of commodities meant for export to Tibet" (Regmi, 1971: 25). Regmi (ibid) suggests that members of the royal family and the nobility before the Gorkha conquest possibly "financed

artisans who produced export goods, and the artisans received nothing more than their wages". That was certainly not true for the metal-workers and painters whom we have shown to have been freely travelling through the Himālayas to and from Tibet working on commission for Buddhist temples and monasteries, even as far as Guge and Bhutan.

During his stay in Lhasa in 1715-16, previous to the Manchu protectorate, Desideri had noticed how the Newars were "masters" in the crafts of casting statues and vases, by which they made "a very good business in Thibet" (De Filippi, 1937: 186). The presence of Newar metal-workers in Tibet continued after the establishment of the Manchu overlordship in 1720 and the Gorkha conquest of the Nepal Valley in 1768-9. Indeed, the Newar community in Lhasa, however small, continued to represent for the subsequent two centuries one of the few Tibetan links with the outside world. The Newars did not lose their trading privileges with Tibet after the Gorkha conquest, which was "welcomed" by the mercantile community of the Nepal Valley, particularly the Newars (Regmi, 1971: 11). As a result of the political unification of Nepal operated by the Gorkhas, "physical and political obstructions in trade were eliminated" (Regmi, 1971: 11). Within a few years after the conquest of the Valley, "we find Newar merchants trading even in the interior western hill regions" (Regmi, 1971: 11) and to this day, for example, a Newar community exists at Pokhara. From the XVIIIth century, Newar traders have thrived also in the Terai area, for example in Butaul, in the newly acquired territory of Palpa (cf. Regmi, 1971: 20, 67 and 171), "an



important trade centre where gold ore, brass, iron, copper, borax, bees-wax and other products of the northern areas were exchanged for different varieties of cotton goods by merchants from India, Bhutan and Tibet" (Regmi, 1971: 20). The new "centralized administration enabled Newar merchants and financiers to diversify their operations by taking up contracts" also for "the exploitation of mineral deposits, and the minting of coins" (Regmi, 1971: 11). Newars were even involved in work "inside mines" (cf. Regmi, 1971: 104). In 1792, the privileges of the Newar traders of Pātan engaged in trade with Tibet were officially confirmed (Regmi, 1971: 11, n. 30). The wars between Nepal and Tibet and China during the period 1788 to 1793 "apparently had no effect on the business and customary privileges enjoyed by Newar traders in Tibet" (Regmi, 1971: 148). On the contrary, a treaty signed in 1789 established that "any Nepalese rice trader having to stay in Tibet at an inn must be given free accommodation and firewood; but ten per cent of his sales from rice will have to be given the innkeeper, Tibetan merchants are not permitted to enter Nepal for any purpose of trade or exchange. If a Nepalese subject commits any crime in Tibetan territory, he will be tried and punished by the Nepalese representative in that area. Tibetan officials will have no jurisdiction in the case." (Shakabpa, 1967: 161). The situation remained unchanged during the following century, and in 1845, after one hundred and twenty-five years of Tibetan isolationist policy and seventy-six years of Gorkha domination of the Newars, the French Lazarist priest Régis-Évariste Huc still found that the

Newars constituted the largest single foreign group resident in Lhasa and that they were "the only metal workers in Lhasa. It is in their quarter that one need look for the blacksmiths, coppersmiths\*, lead-workers, platers\*\*, casters, jewellers, artisans\*\*\*, and even the physicians and chemists" (Huc, 1924, II: 244). The Lazarist priest added that among the Newars "one meets artists very distinguished in the field of metallurgy. They manufacture golden and silver vases for the use of lamaseries, and all sorts of jewellery, which certainly would not offend European artists. It is they who make for the Buddhist temples those fine roofings with gilded plates, which resist all the inclemencies of the seasons, and always retain a marvellous freshness and glitter. They are so skilful in this kind of work, that they are sent for from the bottom

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\* The French "chaudronnier" translates as both "brazier" and "coppersmith". Most Tibetan hardware is hammered in copper and I prefer the latter translation.

\*\* The French "étamer" does not stand only for "to tin", but can translate the more general English "to plate".

\*\*\* Writing in 1875, Wright (1972 repr.: 46) uses the term "mechanic" to designate the artisans of the Nepal Valley. The XIXth century French "mécanicien", like the Italian "meccanico" and the English "mechanic" previous to the automobile era, stands for "manual worker", sometimes "artisan", "craftsman". I should find it difficult to translate it here as "machinist" (Macdonald and Stahl, 1979: 33) or even "mechanician", for such terms could hardly apply to a country where the use of the wheel was restricted to very simple apparatuses (wooden spinning-wheels, reel-winders, etc.) besides its religious uses, and I can hardly conceive of any type of "machinery" in XIXth century Tibet.

of Tartary\* in order to decorate large lamaseries. The Pébouns\*\* are also the dyers of Lhasa. Their colours are vivid and enduring; their cloth may wear out, but never fade (...). the Pébouns have an extremely jovial and child-like character; during their moments of rest, one sees them always laughing and frolicking; during their working hours, they never stop singing..." (Huc, 1924, II: 244-5); whoever has entered a Newar metal workshop of our day knows how well this applies to XXth century artisans too. Huc went on to note how, although Newars "do not follow Tsong-kha-pa's reformation, they are full of respect towards lamaistic ceremonies and practices. During the days of great solemnity, they never fail to prostrate themselves at the foot of the Potala and to offer their worship to the Dalai Lama" (Huc, 1924, II: 245).

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\* This circumstance may confirm that the Mongols had first-hand knowledge of Newar metal-work (see above, p. 7). In the light of the presence of Newar artisans in western Tibet in the XVIIth century (see above, pp. 11-14), it is also very tempting to attribute to them such golden roofs as those of Dawa Dzong or Tholing illustrated by Gotami (1979, II: 126, 128 and 148). It should be pointed out here that the Mongols had their own metal statuary workshops and that their contribution to Tibetan art has so far been ignored: "The magnificent iron and brass statues which leave the large casting workshops of Dolo-Nor are reputed not only in all Tartary, but even in the remotest areas of Tibet. Its huge workshops send idols, bells, and various vases used in the idolatrous ceremonies to all countries subject to the worship of the Buddha. Small statues are in one piece, but the large ones are cast in parts, which are subsequently joined together. While we were at Dolo-Nor we saw a truly monstrous convoy leaving for Tibet; it was but one statue of the Buddha loaded by pieces on twenty-four camels. A prince of the kingdom of Oudchou-Moudchin, who was going on pilgrimage to Lhasa, had to offer it as a homage to the Dalai Lama." (Huc, 1924, I: 80). Üjümüćin is now part of Inner Mongolia. For examples of Mongolian art, see Jisl, (1960 and 1965).

\*\* From the Tibetan Bal-po: "Newar".

The number of Newar residents in Lhasa and other parts of Tibet was high in the XIXth century, perhaps in connection with the peace treaty of March 25, 1856 (Bell, 1927: 278-9) whereby Tibet had to exempt Nepalese imports from any kind of tax and customs duty (art. No. 3) and authorize the presence of a Nepalese resident in Lhasa (art. No. 5) to defend the interests of Newar traders (Lévi, 1905, II: 302: cf. Bell, 1927: 238). According to Wright (1972 repr.: 46; cf. Lévi, 1905, I: 313), there was "a community of about 3000 Nepalese established in Lhasa (...) chiefly Newārs"<sup>22</sup>. On May 30, 1882, Das and U-rgyan-rgya-mtsho, the faithful companion and assistant in his journeys to Tibet, found on either side of the street south of the Jo-khang "Nepalese shops several stories high" (Das, 1904: 198; cf. ibid.: 199).

Less than half a century after Huo's visit to Lhasa, Waddell (1971 repr.: 328) gathered from his informants that "a few of the best idols in Lhasa are made by Newāri artisans from Nepal, who are clever workers in metal and wood". In 1904, the Nepalese consul in Lhasa (portrayed in Waddell, 1906: opp. p. 358) gave an approximate estimate of the Nepalese residents in the city to Waddell (1906: 346): "800 mostly Newar merchants and artisans." Kawaguchi (1909: 280) suggests that "there were three hundred" Newar "merchants" in Lhasa. Because of the fall of the Manchu dynasty in China McGovern (1924: 336-7) noted that "since 1912 the Chinese officials" had "disappeared and with them most of the Chinese merchants" but that there was "still a considerable Nepalese community in Lhasa, and Nepal keeps a minister, or Consul-General, there."

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\* This figure is probably exaggerated. See below, p. 22.

Most of the skilled artisans, metal-workers, and craftsmen are Nepalese.". During the same decade, Bell (1927: 233) reports that there were "six or seven hundred Newars in Lhasa". Again, in 1948, Tucci numbered the Newar community in Lhasa at about three thousand souls (Tucci, 1952: 76). Although his figure is probabably exaggerated<sup>xx</sup>, even including Gurkha soldiers and personnel besides ka-tsha-ra (see below p.25) traders and craftsmen, it is clear that the Newars were still the largest ethnic minority in Lhasa well into the nineteen-fifties, probably followed by the Chinese and by the Ladakhi Muslim minority, which was scattered also in other parts of Tibet (cf. Ronge, 1978: 142). Even after the Chinese invasion of Tibet in 1959, Nepal was the only country to keep a consulate in Lhasa, and in 1977 it was negotiating with China to open a fourth trade route across the Himalayas in far western Nepal. To this day, Newar traders run shops in the old town of Lhasa, selling local cloth and hardware, together with items brought in by the once-a-month bus from Kathmandu: "the journey takes three and a half days." (Wade, 1979: 2; cf. Allen, 1980: 837).

Newar residents in Tibet were traders, metal-workers, silversmiths and dyers. Newar metal-workers were also, and are to this day, specialists in casting bells<sup>xxx</sup> (cf. ch. II, pp.72 and 75). In 1923,

<sup>xx</sup> During an informal conversation held at S. O. A. S. on June 8, 1978, Richardson told me that, at the time of his official residence in Lhasa, the Newar community was about five hundred strong. This figure appears to be close to those given by Waddell (1906: 346) and Bell (1927: 233).

<sup>xxx</sup> Even of a very large size. Cf. Kirkpatrick (1975 repr.: 210); Lévi (1905, I: 306); and Sanday (1974: 5-7).

on the highway leading from the west to Shigatse, McGovern (1924: 170) met "a small body of Nepalese workers in metal, who had been sent for by the Grand Lama\* himself to cast a bell for his monastery, for which the cunning of his own craftsmen was not sufficient". One hundred Nepalese families lived at Shigatse (Ronge, 1978: 142; cf. Das, 1904: 69). Hedin (1910, I: 304 and 374), who met the Nepalese consul in Shigatse in February 1907, mentions that the one hundred and fifty Newar merchants residing there had "their own serai, called Pere-pala"\*\*, for which they paid an annual rent of 500 tang-kas. They had "shops in their own houses" (Hedin, 1910, I: 378). The Swedish explorer describes and illustrates the dances performed by Newars on the New Year festival in Shigatse (Hedin, 1910, I: 346 and figs. 139 and 140). During his expedition to Tibet in 1939, Tucci (1978: 150-151) noticed that the majority of the female ornaments sold in the market at Shigatse were made by Newar goldsmiths.

Six or seven Newars, all Buddhists and married to Tibetan women, lived in Gyantse (Waddell, 1906: 214)\*\*\*. Other Newars, "some fifteen" according to Das (1904: 302), resided at rTse-thang (cf. Waddell, 1906: 440, n. 1), at bSam-yas (Das, 1904:

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\* Probably the Pan-chen Lama resident at Tashilhunpo, near Shigatse.

\*\* On these associations see below, pp. 30-31.

\*\*\* Waddell (1906: 214) mentions that "they wear small turbans like a pork-pie cap, the head-dress of their native country, and a longer a tighter coat than the Tibetans". Visiting the market of Gyantse on January 1st, 1882, Lama U-rgyan "saw fifteen or twenty Nepalese shops" (Das, 1904: 115). Gyantse was also the seat of a Nepalese magistrate (Macdonald, 1932: 55).

294), lHa-rtse and Nya-lam (Ronge, 1978:142). Besides enjoying the privilege of having their cases judged by their own magistrates, the Nepalese were entitled to own houses and land in Tibet (Ronge, 1978: 132), at least since the time of Bhīma Malla's treaty (see above, pp. 9-10). It should be noted here that, technically speaking, Tibetans themselves could not own land. Their estates were entrusted to them as fiefs by the Tibetan administration, in the same way as in Nepal, where all the land belonged to the king, the latter assigned fiefs to various families (Lévi, 1905, I: 297 ff.). Apparently, however, the merchants of Lhasa "owned no land" (Kawaguchi, 1909: 281).

Bista (1978: 202) observes that "the fact that only the urban based skilled craftsmen and experienced people in business and various types of trade went to Tibet to make a living made all the difference in the general image of Nepalis in Tibet as opposed to those in Bihar, West Bengal, and Uttar Pradesh in India, where mostly unskilled wage earners from rural Nepal went to work as cheap labour.". Bista's observation should be modified in the sense that, apart from the "staff-members of the Nepalese consulate", the "only Nepalese (....) who go to Lhasa are the Newars" (Nepali, 1965: 24-25). It is with the Newars, the original inhabitants of the Nepal Valley, "and with them only that the Tibetans have continued to maintain cultural and social relations. The Nepalese community in Lhasa was a Newār community\*, and it is with Newārs and not with other Nepalese that Tibetans not uncommonly inter-

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\* Snellgrove's statement should be modified to allow for a very

marry" (Snellgrove, 1978: 339). The amalgamation of Tibetans and Newars was thus as much physical as cultural. There are several descendants of Tibeto-Newar marriages and, in Tibet, the Newar caste name "Sakya" may be found following a Tibetan name (see below, n. 1). The Tibetan offspring of those mixed marriages are called ka-tsha-ra\*, a Tibetan rendering of the Nepali word kaccara or kaccada, meaning, besides "mule", "of mixed blood"\*\*. In Lhasa there were "more than a thousand persons of mixed Nepalese and Tibetan parentage. Large numbers of this latter class are found also at Shigatse, Lha-tse, and Tse-tang, as well as in small scattered settlements in the province of

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small number of Gorkha and Muslim Nepalese (see Gaborieau, 1973: 34). The Newars who went to Tibet "were all males, with no females whatsoever. Many men, therefore, took local Tibetan wives once they were there" (Bista, 1978: 195). The progeny from those mixed marriages in Tibet was exclusively from Tibetan mothers and Newar fathers. Bista (1978: 195) notes that "subsequent generations, however, could have had both parents as born-in-Tibet Nepalis. Therefore in the course of time a large number of people of either sex who claimed to be Nepali citizens spoke only Tibetan and had never in their lifetime even visited Nepal."

\* I thank Mr. Tshe-ring Sha-kya, a ka-tsha-ra and Nepalese national from Tibet himself, now a student of anthropology at S. O. A. S., for drawing my attention to this term. Even when Newars had stayed in Tibet for generations, they remained "foreigners" (Ronge, 1978: 130). Although ka-tsha-ras became completely Tibetanized, they were able to retain their Nepalese nationality and those who did were allowed to leave Tibet after the Chinese took over the country in 1959. It should be noted here that the Tibetan word ka-tsa-ra, spelt differently from ka-tsha-ra, was used to indicate the Kachari people of Assam (Aris, 1979: 102; and 1980: 11).

\*\* See Turner (1931: 111): "kaccar s. Mule; mongrel, bastard; offspring of parents belonging to castes between which marriage is forbidden". The word is a loan from Hindustani.



Kong-po" (Bell, 1927: 233). In Sa-skya there were thirty-six ka-tsha-ra families of shopkeepers with a total of about one hundred and eighty people (cf. Cassinelli and Ekvall, 1969: 115, n. 30 and 271); most of them "were Buddhist and followed the rules of the Sa sKya sect. Some, however, were Hindus, but they too were free to follow their religion." (Cassinelli and Ekvall, 1969: 327; cf. ibid.: 325). Among the ka-tsha-ras of Sa-skya, "there were about fifteen men, descended from male Nepalese immigrants and married to Tibetan women, who had chosen not to take on Sa sKya allegiance and who were considered to have allegiance to Nepal, even though they were born and had lived all their lives in Sa sKya." (Cassinelli and Ekvall, 1969: 65). A score of the ka-tsha-ra residents in Lhasa were silversmiths (Ronge, 1978: 142).

The Newars settled in Tibet were mostly banra (see ch. II, p. 47): they were Vajrācārya and Śākya, the two highest Newar Buddhist castes, to which both goldsmiths and sculptors belong. The virtual monopoly of the Nepalese trade, not only with Tibet, but also with Bhutan, was, however, in the hands of the Udas, "a composite caste of merchants and craftsmen of generally high economic status through their predominance in the trade with Tibet" (Rosser, in Fürer-Haimendorf, ed., 1966: 106), which is "distinctly inferior as a class" to the banras (Oldfield, 1974 repr., I: 183): a banra may lose his caste and become an Uda, and similarly, an Uda may turn into a Jyāpu, but the contrary never occurs\*.

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\* On the complicated issue of the caste relationships between the Vajravaryas and Udas, see the very detailed account given by Rosser (in Fürer-Haimendorf, 1966: 105-134).

Oldfield (1974 repr., I: 184), followed by Chattopadhyay (1923: 469 and 520) and Nepali (1965: 163), maintains that Uda sub-castes could "eat together and intermarry". Petech (1958: 187-8) states that "they are subdivided into seven groups, who do not intermarry". Probably following Fürer-Haimendorf, he offers the alternative spelling "Uray" and defines it as a caste of "merchants (chiefly in Tibet), carpenters, metalworkers". In any case, the Udas' most interesting occupational feature with regard to our concern of finding reasons for the amalgamation of Tibetan and Newar art, is that most of the Uda sub-castes are involved with arts and crafts<sup>xx</sup>: Kassar (kāmsyakāra), workers of "bell" metal and other alloys (Chattopadhyay, 1923: 520; and Oldfield, 1974 repr. I: 183); Lohankarmis, stone cutters, who "make the images of the gods, and temples, chaityas, &c." (Oldfield, 1974 repr., I: 183) and also workers in wood and ivory (Chattopadhyay, 1923: 520); Sikarmis, carpenters and wood and ivory carvers (Chattopadhyay, 1923: 520); and Thambats (tāmrakāra), "workers in brass, copper, and zinc"<sup>xxx</sup> (Oldfield,

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<sup>xx</sup> Nepali (1965: 77) associates the artisans from the banra and Uda castes with "pagoda style" art but, in his characteristic way, does not expand on the subject.

<sup>xxx</sup> Nepali (1965: 163) adds "gold and silver", but Chattopadhyay (1923: 478) specifically mentions that all occupations followed by the banras "can also be adopted by the Udas except the work of priests and of working in gold and silver". It may be interesting to add here that Hodgson (Chattopadhyay, 1923: 519, 521; reported by Nepali, 1965: 163; cf. Regmi, 1965: 681) also mentions the "Sinha-Khwo", as a former Uda caste of "red lead makers, now husbandmen, although still returning themselves as Sindurkar". Red lead is one of the pigments used in traditional Himalayan and Tibetan painting. However, since the Nepalese sindur translates both "vermilion" and "red lead" and the former has always been commonly used in the Nepal Valley for a variety of purposes, it may be suggested that the "sinha-khwo" were in fact vermilion manufacturers, a caste specifically mentioned by Regmi (1971: 23).

1974 repr., I: 183). These names also function as personal surnames (Rosser, 1966: 86). At the time of Oldfield's stay in Nepal (1850-63), Udas were losing their supremacy as the "most wealthy and influential class in the country", and the Salmi caste of "engineers and merchants, though "originally oil-pressers" (Peteck, 1958: 188) was "by far the most influential class" of Newars (Oldfield, 1974 repr., I: 183). However, Fürer-Haimendorf (1956: 20) maintains that "in recent years" the Udas have had to share the trade with Tibet with other castes, particularly the Salmis, who, "though originally a caste of oil-pressers, have now risen to importance in commerce".

Udas who continued to live in Tibet customarily married Tibetan women and by agreement between the governments of Tibet and Nepal, the daughters of such marriages were reckoned as Tibetans, whereas the sons counted as Udas and Nepalese (Fürer-Haimendorf, 1956: 20; cf. Nepali, 1965: 25; and Cassinelli and Ekvall, 1969: 65)<sup>28</sup>. A substantial Uda community,

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<sup>28</sup> Fürer-Haimendorf specifies that Udas who returned to Nepal contracted marriages with Newar girls of castes lower than Vajracarya and Sakya, and daughters of such unions married Uda men resident in Nepal. Fürer-Haimendorf's observation may be understood only by referring to his own definition of the Udas, whom he regards as "a Buddhist community distinguished from all other Newar castes by its unusual origin (...), a caste sprung from marital unions between Guwaju or Bare men and Tibetan women." (Fürer-Haimendorf, 1956: 20). However, there is no evidence that the Udas are an ethnic group rather than a caste. Also the suggestion that the Udas of Nepal represent "the bulk of the descendants of the culture bringers from the Tibetan side", whereas the banras are "the descendants of later immigrants from India who brought the religion" is nothing but one hypothesis amongst others to explain the early

partially of mixed blood, has grown up also in the Nepal Valley, mostly in Kathmandu (cf. Fürer-Haimendorf, 1956: 20 and Rosser, in Fürer-Haimendorf, ed., 1966: 87), but also in Pātan (cf. Nepali, 1965: 162). In Kathmandu they are said to exceed two thousand (cf. Fürer-Haimendorf, 1956: 20 and Rosser, in Fürer-Haimendorf, ed., 1966: 86 and 115). Many Udas, moreover, have two establishments, and are married to a Newar wife in Nepal and a Tibetan wife in Tibet (Fürer-Haimendorf, 1956: 20).

Social exchange was also extended to the adoption by the Newars resident in Tibet of some Tibetan customs: "Those Newars who live in Tibet dress for the most part in Tibetan attire\*, especially during the winter (...) They have adopted

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colonization of the Nepal Valley (Chattopadhyay, 1923: 481). All sources clearly point to the fact that the Udas are a Newar caste in their own right, with various occupational divisions of which trading is just one. Not all Udas are traders and there is no indication that all Uda traders have connections with Tibet, although those who do may intermarry with Tibetans. Thus it appears that rather than being a special Tibeto-Newar caste, the Udas are a Newar caste of their own, with the peculiar freedom of intermarrying with Tibetans, and, therefore, partially of mixed blood.

\* It may be interesting to mention here that there are specific occasions on which Newars wear Tibetan dress in the Kathmandu Valley. In the marriages of "high caste Newars", probably Uda traders, the persons carrying the worshipping material "must be dressed as Tibetans. The explanation given for this practice is that these men are intended to impress upon the bride's party that the bridegroom's parents own a business-house in Lhasa, the Tibetan capital. These men in Tibetan dress (...) are the first to reach the bride's place. Until then, the whole procession has to wait at a distance." (Nepali, 1965: 220).

Tibetan pastimes, notably the national pastime of holding picnics" (Bell, 1927: 234). However, Newars retained much of their culture and Bell (1927: 234-9) and Kawaguchi (1909: 280-1) show how friction between Tibetan and Nepalese subjects in Tibet was by no means rare. Cases arising from quarrels between Tibetans and Nepalese had to be judged jointly by Tibetan and Nepalese magistrates in Tibet, and the Tibetan government was not allowed to try any case arising from quarrels among the Nepalese subjects and traders in the jurisdiction of Lhasa (art. No. 7 of the treaty of 1856): the Newars had their own magistrates in Lhasa and Shigatse.

The Nepalese in Tibet were grouped together regardless of their religion (Buddhist, Hindu or Muslim) into so-called "pala" or "para" associations (Ronge, 1978: 131). In Lhasa there seem to have been thirteen different paras, then only ten, and eight were still active in 1959. Every Nepalese family in Lhasa and Shigatse had to delegate a representative to a para (Ronge, 1978: 132). There was also one ka-tsha-ra para. Each para had a meeting-place in which the members celebrated their festivals and which also often gave its name to the para. One of these associations, the sgo-ra-gshugs para, numbered about two hundred members (Ronge, 1978: 132). According to Ronge's informant, that particular para must have been two hundred and twenty-five years old. The figure suggests that those associations preceded the Gorkha conquest of the Nepal Valley and that their institution in Tibet was largely to the credit of Newar craftsmen working in Lhasa and Shigatse. This is supported also by the

circumstance that the leading position among the various paras was taken by the "Jerum" para and the "Kakum" para. They were founded by high caste craftsmen, presumably Śākya and Vajrācāryas, from Ye-rang (Tib. for Pātan) and Kho-khom (Tib. for Bhatgaon). Ronge has suggested that the para associations in Tibet derived ultimately from the Newar guthi associations (Ronge, 1978: 166): Newars "who lived sometimes their whole life away from their Nepalese homes brought to and cherished in Tibet a useful institution which allowed them to retain their ethnical identity as well as their habits of social and communal life": the guthi association. Guthis are corporative associations peculiar to the Newars and historical evidence for their existence dates from at least the IXth century (cf. Lévi, 1905, II: 114). They "grant membership to the individual household groups" and divide the Newars "horizontally in a number of groups for achieving different objectives. The entire network of social relations in the Newar community is kept strong through feasts and festivals under the auspices of the various guthis" (Nepali, 1965: 420)\*. The Tibetans, especially craftsmen and traders, "who came from far eastern and northern areas of the country to live for a certain time in Central Tibet and who shared the same experience with the Nepalese, recognized the usefulness of such an institution and followed the example": they created a similar association, the skyid-sdug "based on voluntary membership, self-help activities, charitable

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\* On some aspects of the guthi association, see also Rosser (in Fürer-Haimendorf, ed., 1966: 96 ff.).

work and religious deeds." (Ronge, 1978: 166). It has been suggested that the skyid-sdugs "were a direct imitation or at least heavily influenced by the Nepalese Para or Pala associations in Central Tibet." (Ronge, 1978: 166)\*. Thus the suggestion is permitted that the Newars exported into Tibet at least one feature of their social organization and that they influenced Tibetan culture also on a social level, if it is true that Tibetans borrowed from them their long-cherished institution of the guthi.

#### In Nepal

Cross-cultural and social exchange between Tibetans and Newars was largely prompted by Tibetan interest in Buddhism, and obviously extended to the religious sphere. Emphasizing the frequency and continuity of the exchange of persons and things between the Nepal Valley and Tibet, Tucci (1949, I: 277) reminds us that for a long time Tibetans went to Nepal "to study Sanskrit, to collect manuscripts and to visit the famous stūpa of Svayambhūnāth."\*\*

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\* These associations may have been modelled, in turn, upon northern Indian guilds of artists. A Vārendraka-silpigoṣṭhī is mentioned in an inscription studied by Majumdar. However, "it is not sure whether by this expression we are to understand that there was a regular guild or association of artists in Varendra or North Bengal" (Majumdar, 1929: 45). On the use of the term to define tenure of land, see ch. II, p. 51.

\*\* After 1959, a few of those manuscripts have been brought back to the Nepal Valley by refugees from Tibet (cf. Sakya, 1970: 3 and 11).

This important Tibetan link with the outside world persisted despite the extreme isolationist policy imposed by the Manchu dynasty on Tibet. One may note "a number of cases in the 18th cent. biographical materials where Uray Newars were ordained as Buddhist monks in Tibet. This would have been impossible in Nepal where the religious establishments were the hereditary preserves of the upper castes, the Gubhajas and Bares" (Smith, in Chandra, ed., 1968: 6). On the other hand, Tibetan lamas continued to visit the Nepal Valley and as late as the XVIIIth century they could move with ease among the rival courts of its city-states (cf. Macdonald and Stahl, 1979: 33). The religious links between Tibet and Nepal also "survived the Gorkha conquest of the Nepal Valley in 1768-9 and in the nineteenth and early twentieth centuries a few Tibetan lamas came on missionary visits to Newar communities quite apart from the regular stream of ordinary Tibetan pilgrims making the winter rounds of the holy Buddhist places in the Nepal Valley" (Snellgrove and Richardson, 1968: 202)\*. Even during the hostile Rana regime (1846-1951) Tibetan lamas and pilgrims continued to travel to Nepal (Snellgrove, 1966: 104). The Newars had still something to offer them, not only in the artistic field, but also in the religious and literary sphere.

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\* For example, "in 1923 a Tibetan lama called Yangtse came to Kathmandu and settled in Kindol Baha near the great Buddhist stupa of Swayambhu on the western edge of the city." (Rosser, in Fürer-Haimendorf, 1966: 105).



Several Tibetan monasteries have been built in Nepal during the present century, for example in Helambu (Yol-mo) and Shar-Khumbu. In the nineteen-fifties, Tibetan lamas erected a number of small monasteries in the Nepal Valley, notably in the Svayambhūnāth compound, and their activities received new impetus as a result of the establishment of Tibetan settlements in Nepal after 1959. Larger monasteries were built at Bodhnāth, which is regarded by Tibetan and Newar Buddhists alike as the second holiest place in the Valley. Naturally, Newar sculptors were commissioned to make the metal images for the shrines of the newly-built monasteries and, as in the past, worked side by side with Tibetan clay-sculptors and painters.

There are more and more instances of Newars joining Tibetan monasteries built in the Nepal Valley (cf. Snellgrove, 1957: 98 and 1966: 107, fig. 18), and those who have been to Tibet sometimes also employ Tibetan lamas for the performance of certain Buddhist rites. There was and is no rivalry between lamas and Vajrācāryas, a fact which is emblematic of the good relationship between Newar and Tibetan Buddhists on a religious level, as noticed by Huc (see above, p.20).<sup>xx</sup> The Newar community has always been sympathetically disposed towards Tibetans, and Newar residents in Lhasa "adopted the religious practices of the Tibetans, which were in any case

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<sup>xx</sup> Friction on religious grounds occasionally occurred between Tibetan and Nepalese Hindus (cf. Bell, 1927: 235-6).

very close indeed to their own." (Snellgrove and Richardson, 1968: 202). Newar residents in Tibet used to "worship in Tibetan temples" (Bell, 1927: 234) and of all Newar castes, the Udas in particular are "by far the strongest in devotion to Buddhist beliefs and practices according to the Tibetan model, largely of course through their close and continuing association with Tibetans in the course of trade." (Rosser, in Führer-Haimendorf, 1966: 106).

Bodhnāth itself is more important than Svayambhūnāth as a meeting place of the Tibetan and Newar communities in the Nepal Valley. In fact, now that access to Tibet is barred to Western scholars, Bodhnāth provides an ideal field for researchers interested in the more recent developments of the symbiosis between Tibetans and Newars. To this day, as was the case before 1959, the houses surrounding the stūpa of Bodhnāth are "largely filled with Tibetans, of whom some are permanent residents, while others are here on pilgrimage." (Snellgrove, 1957: 100). The only significant point in the Tibetan legend concerning the foundation of Bodhnāth (Tibetan: Bya-rung-kha-shor) is the firm linking of the stūpa with Tibet. In contrast, one may note that the "version\* of the founding of Svayambhūnāth merely repeats the account of the Svayambhūpurāna\*\* and no attempt is made to appropriate this stūpa also" as part of the Tibetans' own history (Snellgrove,

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\* Probably the mid-XVIIIth century shortened version by Si-tu Pan-chen (1700-1774), a scholar whose connection with Newars has been mentioned by Smith (Chandra, ed., 1968: 64).

\*\* More correctly: Svāyambhuva purāna (Lévi, 1905, III: 159).

1957: 99). Bodhnāth is not only an important religious centre, but is also an important trading point for Tibetans and Newars of the Nepal Valley. In a detailed, but unfortunately unpublished anthropological study of Bodhnāth, Labriffe-Aris mentions that the Śākya goldsmiths of Bodhnāth were traditionally commissioned to manufacture ritual objects and jewellery by the great lamas and families of Tibet. Although some of those customers were lost after 1959 and much trade has shifted to the sale of a wide range of handicrafts to tourists, the Śākyas are present in Bodhnāth more than ever before. Quite rightly, Labriffe-Aris connects that trend with the encouragement given to Nepalese artisans by the plan for the development of tourism in 1957. Whereas once the Śākyas from Pātan went to Bodhnāth only during the winter, when Tibetans and Sherpas arrived for pilgrimage and trade, in the nineteen-sixties they started going there in the summer too. Since then, new shops opened up every year, and Labriffe-Aris was told in 1971 that, in five years, the trade at Bodhnāth had undergone a fivefold increase. The trend was also encouraged by the Chinese invasion of Tibet in 1959, whereby more Tibetans ended up settling permanently at Bodhnāth. In 1964, several Tibetan families from Shigatse opened shops for the sale of clothes and items of common use.

Labriffe-Aris's study is invaluable from a historical viewpoint. It analyzes the situation at Bodhnāth at the end of a period of fourteen years of transformation, during which the trade with Tibet had been largely replaced by trade involving an international clientele, but the importance of

the place as a meeting point for Newars and Tibetans was growing. With the foundation of the large monastery of bKa'-rnying-shes-grub-gling in 1973 and the construction of other Tibetan monasteries in the Bodhnāth area, its role as a religious centre has increased enormously, while the economic and cultural trends noted above have been confirmed. Thus there arises a somewhat paradoxical situation whereby, as a consequence of the Chinese invasion of Tibet, Bodhnāth has experienced a religious and economic renaissance unequalled in the past and the ties between Newars and Tibetans on its compound have been renewed, even if Labriffe-Aris's study shows that marriages between Tibetans and Newars there are rare.

We may distinguish the following categories of permanent residents at Bodhnāth: Tibetan monks; Śākya traders and craftsmen; Tibetan traders and craftsmen; Newar farmers; Uda traders; Newar grocers; and other Newars, Tibetans, Tamangs and Sherpas involved in various occupations. In Labriffe-Aris's study we find also the following data, partially based on the census of 1971:

- i) out of a total population of 987 inhabitants, about 260 were Tibetans;
- ii) out of the 23 shops belonging to Newar goldsmiths, 11 had retained their original workshop;
- iii) the 15 Tibetan shops were retail, though some manufactured clothes, boots and carpets.

The Newar artisans of Bodhnāth, like their colleagues in Lhasa, have traditionally manufactured a range of items which

are regarded as culturally Tibetan. These items include Tibetan jewellery (bracelets, belts, etc.) and ritual objects (prayer-wheels, reliquaries, etc.). Labriffe-Aris noticed that the majority of Tibetan ritual objects and jewellery was made by the Śākya and that those items which had come from Tibet and were sold as Tibetan had in fact been made by Newar artisans in Tibet, or often at Bodhnāth, and then reimported into Nepal.

The fact that four of the Śākya workshops at Bodhnāth have been established since 1941 and eight since 1891 proves that Newar artisans in the Nepal Valley received important orders from Tibetan customers well after the Gorkha conquest and even during the Rana regime. Their presence at Bodhnāth precedes the advent of tourism in Nepal and is connected with the historical importance of the stūpa for the Tibetans as a religious centre and trading point, perhaps from as early as its foundation in the XIVth century (cf. Snellgrove, 1957: 288-9, n. 24).

The above data illustrate the importance and continuity of the role played by the Newar craftsmen of the Śākya caste in the manufacture of Tibetan religious items and jewellery not only in Lhasa, but even in the Nepal Valley\*. From 1966, most of their workshops in Bodhnāth had started operating also as shops, but only one of them, having been converted into a shop, had given up its crafts work. Sometimes Newar

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\* See above, pp.16 and 17 .

goldsmiths take up art-dealing and abandon their former trade; sometimes they merely adopt new designs or adapt traditional designs to new ones. It must be pointed out that Newar jewellery designs have undergone a stylistic evolution of their own, previous to the opening of the Nepal Valley to tourism. As an analysis of the evolution of Newar jewellery designs in the XXth century would be beyond the scope of the present work, I shall limit myself to relating the experience of Yoga Raj Vajracharya (b. March-April\*, 1912), a former Newar goldsmith interviewed in the summer of 1977. In 1945, he went to Lhasa, where he continued his family trade, working as a goldsmith for nine years. When he returned to Pātan, in 1954, fashion and taste had changed, and the demand for jewellery was much reduced\*\*. Yoga Raj could not adapt to the new designs expected by his customers and left his trade altogether. When I met him, he made a living as a painter, although his most interesting creations were a couple of embroidered thang-kas.

Many of the Śākyas of Bodhnāth also have a workshop in their town of residence, Pātan, where they work not only for Tibetans but also for other Newars and for Tamangs, as is the case for the painter Roshan Sakya (b. 1960). The same goes for a few Śākyas who are more involved in the art trade

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\* On the 7th day of the new moon in the month of Chaitra.

\*\* It is possible that the collapse of the Ranas also affected the goldsmiths' trade during the nineteen-fifties. The Ranas used to be fond of filigree work and "curios" and to order them as gifts for their guests.

and keep one shop in Bodhnāth and one in Pātan. Many of the Śākya who have converted their workshops into shops at Bodhnāth have kept their workshops in Pātan. In fact, Labriffe-Aris established that almost all of the Śākyas of Bodhnāth were artisans from Pātan.

Bodhnāth lies only five miles from Pātan and "by the side of the main trade route leading in from Tibet, which may well be the reason for the choice of the site" (Snellgrove, 1957: 99). Pātan was the main city in the Nepal Valley until the Gorkhas made Kathmandu the capital of their new kingdom and, for the first time, the term "Nepal" was used to designate not just the Valley. Kathmandu was originally a kind of suburb of Pātan, from which it gained its independence only in the XVth century\* (Snellgrove, 1966: 96). Whereas Kathmandu has eight main Buddhist monasteries and about seventy-five subsidiary ones, Pātan has fourteen and one hundred respectively (Snellgrove, 1957: 102). In the XIXth century, Pātan (Tib.: Ye-rang, "Eternity Itself"; New.: Yela) was still the largest city (Oldfield, 1974 repr.: 115) and is now the most largely populated Buddhist town in the Nepal Valley. It is to this Buddhist university-city that "monks and pundits were glad to come and visit. Some came from India to teach. Others from Tibet came here to learn" (Snellgrove, 1957: 95). Tibetans are attached to Pātan for a number of reasons: "the

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\* The building from which the city derives its name, the temple of Kāṣṭhamanḍapa, was built in 1596.

important cultural and trading connection with Tibet was mainly in the hands of the predominantly Buddhist city of Pātan, some of whose citizens married freely with Tibetans of Lhasa." (Snellgrove and Richardson, 1968: 202). After 1959, an important Tibetan settlement was created at Jawalakhel, in the outskirts of Pātan, and a few Tibetans have also established themselves as traders and shopkeepers in the historical artists' quarter of Oku Bahal and in other parts of the town. At the time of my stays in Oku Bahal in 1977 and 1978, there were at least three Tibetan carpet shops, one with an attached workshop, and one run by a couple of Tibetan painters from Shigatse, who had their own workshop in Kathmandu.

As in Lhasa, Svayambhūnāth and Bodhnāth, Tibetan and Newar Buddhism exist peacefully in Pātan side by side and a good illustration of that co-existence is provided by the most important monastery in Pātan, Kva Bahal, also known as Hiranya Varna Mahabihar, whose right upper wing houses a Tibetan temple decorated with statues and murals in Tibetan style. A few small monasteries in Pātan have been revived by renewed contacts with the Tibetan monasteries of Svayambhūnāth and Bodhnāth, and it is not rare to find Newar and Tibetan lamas belonging to the same order in their compounds. Newar monasteries or parts of them have sometimes been attached to Tibetan head monasteries. This is the case of the chapel on the upper floor of the western wing of the Rudra Varna Mahabihar (cf. ch. II, pp. 65, 98), which is decorated with thang-kas framed in Tibetan style and cared for by



rNying-ma-pas, although the shrine is consecrated to a typically Newar Buddhist deity, Amoghapāśa.

The link between Bodhnāth, as a historical meeting point for Tibetans and Newars in the Nepal Valley, and Pātan, as the only place where metal statuary has survived to this day, is very relevant to the purpose of the present chapter. The artisans who were commissioned to make jewellery and religious objects by Tibetans at Bodhnāth were the same Śākya people who still work as goldsmiths, silversmiths and copper-smiths in Pātan. In fact, those three activities are often performed by the same artisan, for whose job there is no appropriate Western definition. To this day, in Pātan, there are such metal-workers specializing in the manufacture of Tibetan ritual objects. Although Labriffe-Aris says that there are only three of them, I was impressed more by the variety, quality and amount of the output of the two I met in Pātan, than by what I could see in Bodhnāth. Their veteran is probably Tej Bahadur Sakya (b. c. 1903), nicknamed "Nati" and mentioned as "Nati Kaji Sakya" by Alsop and Charlton (1973: 45), who give a different account of his story. He emigrated to Tibet in 1923 and spent twenty-three years in Kyirong. In 1946 he returned to Pātan and now lives and works with his son Kul Bahadur (b. 1934) in the quarter of Sundhara, where he embosses splendid Tibetan silver butter lamps, silver tea-bowls, and copper and brass Tibetan calendars, with the help of bronze dies made by Man Jyoti Sakya (see ch. II, pp. 63-71 ). In the summer of 1978, I commissioned him to manufacture five pairs of thang-ka stick caps in silver, which he made

very well in two different models. Another outstanding metal-worker who embosses and chases Tibetan ritual objects is Harsha Ratna Sakya (b. January 13 - February 11, 1911), who lives and works at Oku Bahal. His father and grandfather worked for Tibetans, making reliquary boxes and various kinds of embossed work. When I interviewed him in his workshop on August 17, 1977, he was assisted by his two sons and a pupil, all promising artisans. On that occasion I was shown not only fine Tibetan calendars, items for which he used to receive bulk orders from Tibet, but also silver and brass reliquaries, a silver holy-water jug, a copper mandorla, and three embossed copper and silver statues, one of them gilded. A study of the embossers and chasers in Pātan is not within the scope of this survey, but it is important to underline the connections between Newar artists and Tibetan customers there. Newar metal work was so much treasured in Tibet that it is still in demand among Tibetan exiles, who are ready to wait a year and more for their orders to be carried out (cf. Ronge, 1978: 129). Tibetans going to Pātan to order ritual objects may also buy or commission the manufacture of statues cast with the lost-wax process, a speciality of the artists of Oku Bahal. Pātan has the monopoly of that trade, and Labriffe-Aris notes that all cast statues to be found in the Śākya shops of Bodhnāth are made in Pātan, which offers casting facilities not available at Bodhnāth.

From the above brief survey of the relationship between Newar artists and artisans and Tibetan patrons, it appears that:

- i) Newars and Tibetans have lived in symbiosis for more than a millenium, in a unique kind of artisan-patron relationship which has never disappeared, though may have weakened at times, and which continues to this day.
- ii) Newars have assisted Tibetans probably at least from the VIIth century A.D., first as stone and then as metal sculptors, embossers and chasers, in a number of crafts ranging from the manufacture of jewellery and ritual objects to roofing work, and also as painters and as wood carvers.\* The contribution of Newar art to Tibetan art is documented for every century from the XIIIth century onwards.
- iii) Although the influence of Newar painting in Tibet started decreasing in the XVIIth century, the contribution of Newar metal work to Tibetan statuary and relievo work was then at a climax and it is likely that its consolidation into what I find it convenient to call Tibeto-Newar style had occurred by then.
- iv) Newars still meet most of the requirements of the Tibetan exiles for ritual objects, jewellery and metal images.
- v) There is no historical evidence of Tibetan metal sculptors working in Nepal at any time, though Tibetan clay sculptors have been active there at least since 1959. The present absence of lost-wax statuary manufacture in Bhutan, Ladakh, and the Tibetan areas of Nepal, including Tibetan refugees settlements, suggests that all cultural Tibet depended heavily

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\* Cf. Tucci (1952: 77): several wooden structures of the Jo-khang in Lhasa were finely carved by Newar artisans. Again Tucci (1937:42 and pl. between pp. 48 and 49; and 1978:43-4 and No. 7) suggests that Nepalese artists may have carved the wooden panels of the XIth-XIIth century door of the assembly hall at Kojarnāth, in western Tibet.

though not exclusively, on Newar lost-wax metal sculptors well before the XXth century.

vi) For centuries, Newar metal-workers have produced objects which culturally, stylistically and iconographically *are in a purely Tibetan rather than a Newar style.*

vii) The geographical area corresponding to the activities of Newar metal-workers in cultural Tibet extends from northern Nepal and southern Tibet to central Tibet, China and, perhaps, Mongolia; and from western Tibet, perhaps as far as Ladakh, to Bhutan and eastern Tibet.

It is likely that the first quarter of the XVIIth century was a golden age for Newar metal-workers. Ardussi (1977:246) names five Newar craftsmen in connection with the foundation in Bhutan of a workshop to erect the Silver Stūpa for bsTan-pa'i-nyi-ma in 1620. From Andrade we have learnt of the presence of Newar artisans in western Tibet in 1625, and in 1604 the First Panchen Lama attended a casting by Newar sculptors. During the same span of years, Newar metal-workers travelled from the Nepal Valley to the east and west of the Himālayas, besides being constantly present in central and southern Tibet. Their contribution to Tibetan statuary can hardly be underestimated. Their high standards of craftsmanship and constant relationship with Tibetan patrons account for the extent to which Tibetans depended upon them for all sorts of metal work. Their ability to adapt to the requirements of their Tibetan customers and their prolonged contacts with Tibet explains the formation of a specific Tibeto-Newar style of metal statuary as may still be met with in many Tibetan monasteries of the Nepal Valley. The extent of the inter-

-penetration of Tibetan and Newar components in that style is such that the foremost living Newar sculptor, Man Jyoti Sakya, when asked whether he preferred the Tibetan or the Newar style, laughed and replied: "They are the same" (Alsop and Charlton, 1973: 45). The persisting dependence of Tibetans on Newar metal statuary during the present century, and the latter's flexibility in adapting to different styles, is illustrated in the following chapter, dedicated to the lives and works of the foremost Newar sculptors of the XXth century.

## Chapter II

### THE SCULPTORS OF THIS CENTURY: A BIOGRAPHICAL APPROACH

The following biographical sketches are based on two surveys carried out in Pātan in the summers of 1977 and 1978. The choice of artists was based on the experience which I acquired in the years 1972, 1973, 1974 and 1975 during as many stays in the Nepal Valley, when, as keeper of the Aniko Collection, I purchased a number of XXth century metal images of a high standard of craftsmanship. During my fieldwork in Nepal, I ensured that all the major and a few minor sculptors should be included in my final survey. Four of the artists I studied are mentioned by Alsop and Charlton (1973: 29 ff.) and one by Labriffe-Aris (1973: 188). They are all Newar, Buddhists and live in Pātan. Most of them are residents of Oku Bahal, an area at the south-eastern end of Pātan, and all, with the exception of one, are banras\* (honourable), that is descendants of monks who, with the final destruction of the great places of Buddhism in India by the end of the XIIth century, "had no choice but to come to terms with society" (Snellgrove, 1957: 108). They came to constitute a separate

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\* Or: ba-re. It is "the Newar form of Sanskrit vandya, 'worthy', used as a respectful term for Buddhist priests and monks." (Snellgrove and Richardson, 1967: 274). Nepali (1965: 77) notes that also "the artisans associated with" the pagoda architectural style "are exclusively from the Vanra and Udas castes, the former being more predominant". For supplementary information those two castes see also Regmi (1965: 703-5).

hereditary group and finally received official sanction in a caste system in the mid-XIVth century (cf. Snellgrove, 1957: 108), as a consequence of the Malla policy of favouring Hindu traditions in the Nepal Valley. One of the artists studied below is no ordinary banra: he belongs to the élite of the Newar Buddhist community, the Vajrācāryas (vajra-masters), whose priestly status must be consecrated with a special ceremony (cf. Locke, 1975: 14 ff.), failing which they may lose their special caste. The consecration has little to do with actual religious vocation and learning, and has become a mere matter of prestige. The Vajrācāryas "normally pursue their own crafts like all other banras" (Snellgrove, 1957: 112), although their presence as priests may be required at the frequent ceremonies privately or publicly instituted by Newar Buddhists. The great majority of the artists, however, are ordinary banras and bear the personal surname "Sakya". They regard themselves as descendants of the historical Buddha's clan and they may be defined as "simple monks" as opposed to the Vajrācāryas, who are supposed to be "learned monks" (cf. Petech, 1958: 186). The caste status of all banras must be confirmed by the performance of an expensive ceremony, during which "from generation to generation the vows must be made and then retracted" (Snellgrove, 1957: 110)\*. Released from their vows, the banras return to "their now hereditary crafts as workers in silver, gold or

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\* This rite is described in detail by Locke (1975: 13-14).

crystal, as moulders of bronze images, as woodcarvers, workers in stucco and painters. Indeed things of such beauty have come and still come from their hands, that one's regret for the decay of the institutions to which they belong, is tempered by wonderment at their individual skills." (Snellgrove, 1957: 110-1). Petech (1958: 186) notices how "very many of them are goldsmiths by trade"\*, and that holdstrue for the sculptors I have reviewed, though it should be added that the manufacture of metal pots cast by the lost-wax process, besides trading, ought to be counted amongst the various activities of the Śākya. Oldfield (1974 repr.: 182) lists the various occupational divisions of the banras: goldsmiths and silver-smiths making, however, "only...ornaments"; "workers in brass and tin, making metal images of gods, also cooking utensils" and tinning metal dishes; makers "of guns and cannons in iron, brass, or other metal"; and carpenters, workers in wood, plasterers, etc. The Vaṃśāvalī (Wright, 1972 repr.: 234) mentions that the banras owe the craft of carpentry to the intervention of the king of Pātan, Siddhi Narasiṃha Malla (1620-1661), probably in the first half of the XVIIth century. Hodgson ( see Chattopadhyay, 1923: 516) notes that the banras follow different vocations as coppersmiths and stone-workers, thus completing the picture provided by Oldfield and suggesting that the involvement of Śākya and Vajrācāryas in all kinds of arts and crafts besides metal statuary is a

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\* Cf. Snellgrove and Richardson (1967: 274): "They were silversmiths and goldsmiths for a large part, although some of them continued to function as priests."





1. Cāmunda. Nepal. 1766 A.D. Copper with traces of gilding.  
5 $\frac{1}{4}$  in. (13.7 cm.).

traditional feature of Newar society. An interesting anthropological feature of this situation is that Newar sculptors belong to the highest ranking social group within the Buddhist caste system, while the status of Indian Hindu craftsmen is traditionally low\*. In Nepal, they received extensive patronage, particularly under the Malla dynasties (1200-1768), and some kings were magnificent patrons. Unfortunately, with the notable exception of Aniko, recorded history has so far yielded negligible information on the artists themselves, while paying considerable attention to recording the names of their kings. It is likely that a tradition of metal statuary manufacture existed in all the four main towns of the Kathmandu Valley, although it is now confined almost exclusively to Pātan. After the fall of the Valley to the Hindu Gorkhas in 1768, the manufacture of large metal images suffered a severe setback, partially because of the economic decline of the Buddhist monasteries, which were deprived of their lands, and partially because the new rulers proved rather less interested in the fine arts than in the martial ones.\*\* Under the Mallas "every temple had a liberal

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\* On the Hindus' conflicting views on the status of artisans, see Kramrisch (1959: 18-24). "The crafts were hereditary, or the succession was by apprenticeship and adoption, for skill is not inherited. The crafts did not form the prerogative of any caste (...). Against this liberal pursuit of the arts, however, we have the Arthaśāstra, qualifying the Śūdras as artisans, and the Viṣṇumūrti (3rd cent.), which makes all branches of art the duties of the Śūdras" (Kramrisch, 1959: 19).

\*\* Cf. the Imperial Gazetteer of India (1908: 119-20): "All the mechanics of the country are Newars, who are skilful workers in gold, silver, and brass, as also good carpenters and wood-carvers. In olden days they were celebrated for their artistic productions in brassware, and the delicacy and variety of their wood-carving; but since the Gurkha conquest these industries have been allowed to languish."



2. Mañjuśrī. Nepal. 1836. Fire-gilded copper. Aniko Collection (Geneva). 9 7/8 in. (25 cm.).



jaigir\* permanently attached to it, the produce of which mainly kept it in repair and paid the expenses connected with it. On the Gorkha conquest of the Valley such of the temples as the new Government thought it would be desirable to keep in good repair were allowed to retain a moiety, seldom more, of their church-lands; these temples are to this day in very fair preservation. But in the majority of cases Prithvi Narayan confiscated the entire jaigir; and in many instances, where he had spared the sacred revenues, Ran Bahadur, and afterwards Bhim Sen, appropriated them." (Oldfield, 1974 repr., I: 116)\*\*. Grants of land whose beneficiary was a temple or monastery were known as guthi (cf. ch. I, pp. 31-2): "Guthi land was that donated by the state or individuals for religious or philanthropic purposes. It was usually tax exempt." (Joshi and Rose, 1966: 14; cf. Regmi, 1971: 26). However, the "land grant and assignment policy followed by the Gurkhali rulers favoured particular classes and communities

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\* On the system of the jaigir, a Persian term, by which the Nepalese designated lands granted in fief, see Lévi (1905, I: 297) and Regmi (1971: 39 ff.).

\*\* Quite correctly, Oldfield notes that "it is not the Newars who are to blame for the neglected and ruinous conditions of so many of their temples and public buildings (...) Such temples having been left to the precarious support of the 'voluntary system' among a people whose poverty is greater even than their piety, have naturally decayed, and are now fast falling into ruin" (Oldfield, 1974 repr., I: 116). As a consequence of the Gorkhas' rapacity, Nepal now needs a minimum of £ 3 million to restore its temples and its government has appealed to U. N. E. S. C. O. for sponsorship (cf. Morrow Lockwood, 1979: 16).



3. Tārā. Nepal. 1876. Fire-gilded copper. 7 in. (18 cm.).

in the society to the exclusion of others" (Regmi, 1971: 40). The Newars "generally did not receive such favours. On the contrary, they suffered a gradual depletion of or encroachment on the lands they had obtained" (Regmi, 1971: 40) under the Mallas. Large areas of the land held by Newars in Kathmandu and other towns were thus acquired by the new rulers for the construction of Brahmanical temples and other purposes, and their former owners "were given lands in exchange in less attractively located areas" (Regmi, 1971: 40): "a royal order issued in 1795 mentions that 'the entire paddy lands of Newars in Changu (Kathmandu district) had been confiscated'" (Regmi, 1971: 46). Guthi land endowments previously made by the displaced Malla kings in the Nepal Valley underwent similar treatment. After his conquest, Prthvi Nārāyan "scrutinized Guthi land endowments made by the Malla kings, abolished those that were to be abolished and confirmed those that were to be confirmed" (cf. Regmi, 1971: 46). Guthis were then "endowed to provide for major expenses of the royal palace" (cf. Regmi, 1971: 210, No. 11). However, royal patronage never completely ceased and Newar sculptors continued to produce both Buddhist and Hindu images. Their activity during the XVIIIth and XIXth centuries is documented by a number of inscribed statuettes, some of which continued a high standard of craftsmanship.

The evolution of Newar statuary during the XVIIIth and XIXth centuries may be exemplified by comparing the copper statuette of *Amundā* illustrated in Sotheby's sale catalogue "Lama" (23rd June, 1980: 8, No. 6) and dated N.S. 887, that





4. Couple of donors. Nepal. 1906. Brass.

is 1766 A.D., immediately previous to the Gorkha conquest -  
 - with the gilded copper Mañjuśrī dated N.S. 957 (1836 A.D.) and gilded copper Tārā dated N.S. 997 (1876 A.D.)\*, formerly part of the Aniko Collection (Nos. 114 and 146 respectively). Their style tends to become more ornate and the taste for elaborate throne stands and mandorlas, a feature of much XVIIIth century Newar statuary, persists. On the other hand, much of the popular votive statuary from the XVIIIth to the XXth century did not vary noticeably, as may be seen from the donors illustrated opposite, and cast in N.S. 1027 (1906 A.D.). Also the Tibeto-Newar style continued into the XXth century, and high standards of craftsmanship were generally maintained, if on a smaller scale owing to diminished patronage. Indeed, the Aniko Collection Manjusrī is an instance of good XIXth century craftsmanship.

After the Kot massacre in 1846, the Rana family became the effective ruler of Nepal and its members continued to be appointed as hereditary prime ministers until 1951. Minor pieces were still produced and there is mention of an "image factory" in Nepal owned by one Mr. Bhikhuraj in the nineteen-twenties (Majumdar, 1926: 426). Some of the statues cast during that period occasionally betray the influence of the Ranas's westernized, neo-classical, exotic taste, as will be clearly illustrated below in some works by Newar sculptors dating to the first half of this century. The Newar

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\* See also Christie's sale catalogue "Kris" (July 2nd, 1980: 13, No. 55). On the problem of Newar chronology, see below, p. 57, n. 2.





5. Cāmunda. Nepal. 3rd day of the 3rd month N.S. (10)27 (end of December 1905). Brass. 10 $\frac{1}{4}$  in. (26 cm.).

statuary tradition also survived thanks to the orders of Tibetan monasteries in the Nepal Valley and southern Tibet. At the turn of the last century, Lévi (1905, I: 306-7) could write that Nepal still manufactured "a great number of idols, both Buddhist and Brahmanical, which spread to the north and south of the Himalayas. Because of their skill/fulness in metal-work" Newar craftsmen "are still very demanded in the Tibetan world". Private wealthy patronage and guthi\* patronage may have suffered a new blow from the land reform carried out by king Mahendra in 1964. The ability of a guthi to commission the manufacture of images is directly linked with the fortunes of the land endowed to the monastery and administered by the guthi itself, and which provides the crops and cash necessary to support all its religious activities (cf. Greenwold, 1973: 133). However, the fall of Tibet to the Chinese in 1959 and the opening of Nepal to tourism after 1957, with the completion of the road linking Kathmandu to the Indian plains (1956) and the construction of several landing-strips in the 1960s, more than counteracted the effect

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\* Guthis actually own statues and paintings (cf. Macdonald and Stahl, 1979: 4). However, I understand that, on very rare occasions due to adverse circumstances, guthi leaders may have been put in the very awkward position of having to sell an ancient image for the Western art market, in order to raise funds to proceed to essential repairs in their monasteries. An ancient image can always be replaced by a new one, commissioned to the artists of Pātan. The replacement of statues with replicas, and of replicas with other copies gaining the authenticity of their predecessors is not unknown in ancient art, and Griswold (1957: 42-3) has exemplified this phenomenon in the context of XVth century Thai sculpture.



6. Śaḍakṣarī and Tārā. Nepal. XIXth-XXth century. Brass.  
4½ in. (12 cm.).



7. Śākyamuni. Nepal.  
XIXth-XXth century.  
Copper. 4 in. (10 cm.).  
Collection Dr. Beniamino  
and Andreina Lo Bue.

of the diminished royal and guthi patronage. Tibetan refugees began to commission images for their private shrines and newly-built monasteries, and Western travellers started to buy "curios", sometimes as souvenirs, sometimes as collector's pieces. These two types of private patronage promoted a renaissance of Newar statuary and modified the economic pattern of the tightly-knit craftsmen's community of Pātan. While one artist continued his inherited profession of sculpting, others left their family tradition of pot-casting and goldsmith work and turned to metal statuary. Indeed, the majority of the artists reviewed below are first generation sculptors. The heritage of the great Newar statuary tradition, however, was transmitted by an outstanding artist, Man Jyoti Sakya, who belongs to a family of traditional sculptors. The following notes will show how all the major sculptors of the first generation were trained by Man Jyoti, and how the second generation has benefitted directly from their newly acquired skill. The sketches of the artists' lives are based on a number of interviews which I had with them in 1977 and 1978 and on the opportunity I had to live on both occasions in the house of one of the sculptors, Kalu Kuma Jache Prajapati Thakur, and watch him and his apprentices at work. I have attempted to keep the biographical information to an essential minimum, preferring to mention only those works of art which I could illustrate with pictures. Because of the number of interviews I had with the artists, however, these data may be regarded as strongly indicative of the whole of their statuary production until 1978. *The artists dealt with here form the great majority of the master craftsmen of the XXth century.*





8. Bhairava. XIXth-XXth  
century. Silver. 9 x 6 in.  
(23 x 15 cm.). Pātan.

9. "Mahālakṣmī". XIXth-XXth  
century. Silver. 9 x 6 in.  
(23 x 15 cm.). Pātan.



My criteria for selecting the sculptors have been:

- i) their high repute among Newar informants in general and artists in particular;
- ii) technical skills, for example, the ability of an artist to fashion a statue without the help of a model;
- iii) aesthetic considerations, derived not only from my own cultural background, but also from the Newars' own ideas and my appreciation of their canons of beauty.

In the latter respect, I am very grateful to a good friend and informant, Puspa Raj Sakya, who so often guided me through his complicated world and, notwithstanding his much younger age, taught me all I could learn from him in Pātan, and also during his stays with me, in Europe.

#### Kuber Singh Sakya (1891-1956)

Whenever I revisit the 12' gilded and painted Śākyamuni (cf. Alsop and Charlton, 1973: 32) located in the entrance to the Karmaraj monastery at Svayambhūnāth, I am reminded of how much injustice is done by art critics who ignore the work of the three generations of Newar artists who have continued to embellish the Nepal Valley during this century. Kuber Singh Sakya was one such artist, and it took him three years (1954-6) to emboss and chase that masterpiece\* with the

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\* On p. 534 of his comprehensive history of Svayambhūnāth, Shree Swayambhu Mahachaitya, Kathmandu, Svayambhu Bikas Mandal, 1978, Hem Raj Śākya specifies that it is eight cubits (one cubit = 18") high, that it contains a relic of Śākyamuni, that it bears an inscription on its back, and that it was offered to the monastery by one Juju Man Tamrakar. It is highly desirable that his extensive survey, the labour of twenty-two years of research carried out in loco, should be translated into English so as to provide Western scholars and students with an encyclopaedic source on the subject.





10. Śākyamuni. Karmaraj Monastery. Svayambhūnāth. 1954-1957.  
Repoussé copper. Fire-gilt. 12 ft. (366 cm.).

help of his son Kesh Raj Sakya (1909 - Sunday, Asadh 25\*, 1967), who brought the work to completion in 1957, approximately one year after his father's death. Statues by Kuber Singh are to be found in northern Nepal, Kyirong and Bhutan. They include the 4' 5" Śākyamuni, 2' 9" Mañjuśrī, 3' 6" Guru Rin-po-che and 2' 8" Tārā Jāngulī of embossed and gilded copper, made in 1947 for the Dharmacakra monastery on Sarasvatī Hill, Nepal Valley. Kesh Raj's son, Chaitya Raj Sakya (b. 1956) continues the family's artistic tradition working as a chaser at his father's house at Thaina, Pātan. 84

Pancha Jyoti Sakya (c. 1883-1963)

One of Kuber Singh's closest friends, although much younger than he, was the greatest Newar sculptore of the XXth century, Man Jyoti Sakya (b. 1916)\*\* Man Jyoti himself

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\* This date corresponds to mid-July of that year. For this and other dates I was given the Nepalese Vikrama year. The Vikrama era (58 B.C.) is said in the Jain book Kalakācārya-kathānaka to have been founded after a victory of king Vikramaditya over the Sakas. The years reckoned in this era are generally indicated with the word vikramasamvat or simply samvat. In northern India and Nepal the custom is to begin each year with Caitra (March-April) and each month with the full moon. To reduce Nepalese Vikrama dates to dates A.D., 57 must be subtracted from them for dates before December 31 and 56 for dates after (however, cf. Petech, 1958: 13).

\*\* For this date I consulted the artist's astrological chart. The Newar era starts on October 20, 879 A.D. (cf. Lévi, 1905, II: 181 and Petech, 1958: 13). Thus the Newar year 1 corresponds to the period October 20, 879 - October 19, 880 A.D. and, for example, the Newar year 1001 corresponds to almost ten months of 1880 A.D. The difference 880 - 1 = 879 must be added to all Newar years to obtain the almost equivalent Christian year. It is unfortunate that many art historians disregard such simple arithmetic and add 880 to the Newar date. The Newar era is still used by Newars, although the Vikrama era has been officially adopted by the present rulers of Nepal.



11. Man Jyoti Sakya (b. 1916) at  
Sarasvatī hill, in September 1978.



12. Peacock. Rudravarṇa  
Mahāvihāra. 1930s. Bronze.  
4 ft. 6 in. (137 cm.).

belongs to a lineage of famous, or at least locally well-known, sculptors. For the courtyard of the Rudra Varna Mahabihar, one of the most remarkable monasteries in Pātan, his father Pancha Jyoti Sakya modelled the bronze pairs of 3' 11" lion-like mythical creatures (1934), 4' 2" horned hippogriphs (1935), 3' 6" Garuḍas (1938)\* and also the 4' 6" peacocks resting on beams which jut out from the wall just below the first tier of the shrine's roof. In competition with an artist from Nah Bahal, he also sculpted two lions for the same courtyard, and a story relates how popular consent proclaimed as the winner the artist whose neo-classic-looking lions now stand there\*\*. That pair of lions, as well as the standing figure of "Arjamber Purus" in the guise of the prime minister Juddha Shamsheer (1938)\* and Śuddhodana (see below), show the more or less despotic influence of the Ranas' westernized taste on the production of some Newar artists at the turn of the century. Such an influence was ephemeral, as is clearly shown by the works of the three following generations of Newar sculptors. At any rate, Pancha Jyoti saw his brass lions purchased by the Rana rulers for the Singha Darbar in Kathmandu\*\*\*. The four pairs of brass winged lions 2' 8" high

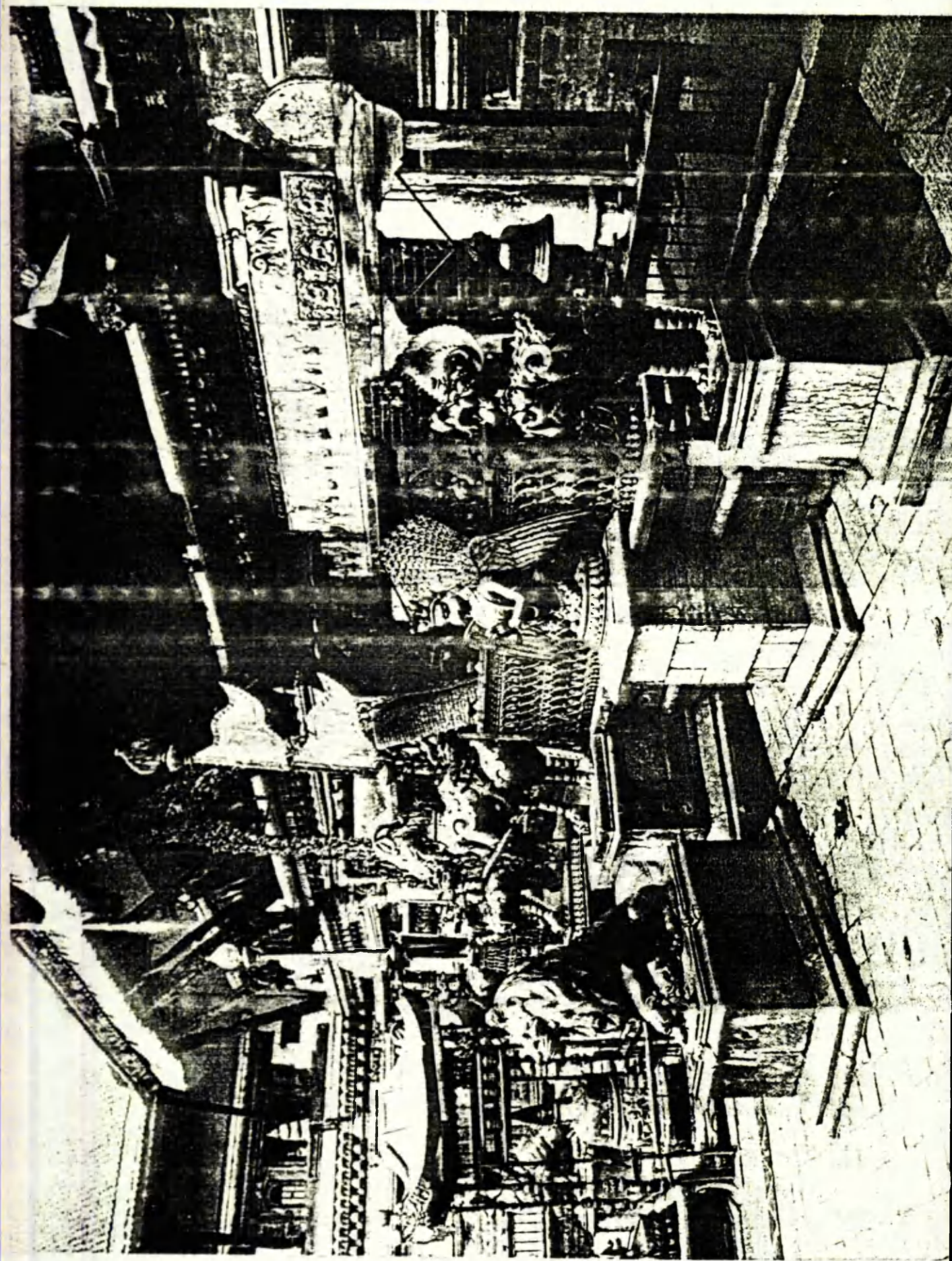
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\* All these images are inscribed with the Newar year.

\*\* It may be interesting to note that exhibitions of Newar art in local monasteries take place at least once a year (cf. Macdonald and Stahl, 1979: 125).

\*\*\* Tej Jyoti Sakya, a son of Pancha Jyoti's, has never heard that anecdote, but admits that his father's lions stand in the Parliament's meeting-hall.





13. Mythical animals. Rudravarṇa Mahāvihāra. Pātan. 1934-1938. Bronze.

guarding the Tārās around the stūpa in Svambhūnāth, with their front claws resting on stylized rocks, were also made by him. In 1943, Pancha Jyoti fashioned the bronze images of Śuddhodana\* and Mahāmāyā (inscribed N.S. 1064), both 16,17 2' 5" high, standing against the walls on either side of the main shrine in the Rudra Varna Mahabihar.

In Lévi's very apt words, that monastery "is a beautiful vihāra with two courtyards in depth, clean, well-kept, with pillars, caityas, ordinary chapels, but only recent steles" (Levi, 1905, II: 347). However, the monastery is mentioned in a Newar and Sanskrit inscription in Newāri script referring to repair works on Yotalivi Caitya, which is situated just behind it, "and is mentioned as Shivadeva Bihar in the Licchavi inscriptions." (Sakya, 1970: XXI and 161, No. 45). According to the Vaṃśāvalī, an important historical text whose Buddhist version was written in the early XIXth century by a Newar monk from nearby Mahabuddha, the pious Licchavi king Śivadeva I (c. 580-605)\*\*, a predecessor of Aṃśuvarman, built the monastery in order to retire there after his abdication (Wright, 1972 repr.: 120 and 234; cf. Lévi, 1905, II 25-6). Later on it was repaired by king Rudradeva after his abdication (c. 810; cf. Wright, 1972 repr: 166) and probably derived

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\* This image betrays a Western influence in the column surmounted by a flower pot upon which Gautama's father leans with his right elbow: obvious Rana features in contrast with the simplicity of Mahāmāyā's traditional design.

\*\* On Śivadeva I, see also Goetz (1969: 183 and 188).





14. Garuḍa (detail). Rudravārṇa Mahāvihāra. 1938. Bronze. 3 ft. 6 in. (106½ cm.).

its present name from that king (cf. Sakya, 1970: XXI). However, an inscription dated N.S. 143 (A.D. 1022) mentions a donation in favour of the Śivadeva Bihar (Lévi, 1905, II: 25), a circumstance which may just indicate the persistence of the use of its former name. In the Vaṃśāvali the monastery is referred to as "Onkulī Rudrabarn" or "Onkulī Bihār" (Wright, 1972 repr.: 166 and 234) from which the Newāri "Oku Bahal" may have derived. During the extensive restoration work carried out in 1980 on the front wing separating the two courtyards of the monastery, a total of one hundred and thirty-eight palm-leaf manuscripts in Newāri were uncovered. They were translated by the Newar scholar Hem Raj Sakya, and some of them were found to belong to the XIth century (Sakya, 1980: 14). The wooden struts on the southern side of the back wing, facing Yotalivi Caitya, are generally attributed to the XIIth and XIIIth centuries and have been widely illustrated (for example, by Pal, 1974, I: Nos. 235-6 and Macdonald and Stahl, 1979: 3). During the restoration work in 1980, a copper plate was also uncovered, recording the dedication of a chapel to Cakrasamvara in the Newar year 481 (A.D. 1360; cf. Sakya, 1980:14-15). That is the earliest inscription so far discovered in the monastery. Although Bernier (1970: 96) maintains that "the torana is dated 511 Nepal Samvat" (1390 A.D.), I have been able to trace an inscription only on the torana over the shrine door, of the Newar year 796 (A.D. 1675). That date is confirmed by Hem Raj Sakya, who adds that the tympanum was donated by some merchants who returned wealthy from Lhasa and wanted to make





15. "Arjamber Purus". Rudravarṇa Mahāvihāra, Pātan. 1938. Bronze.  
5 ft. 11 in. (180. 5 cm.).

good use of their money. Other inscriptions carved at the bottom of the wooden struts supporting the first roof tier of the northern side of the back wing bear the date N.S. 773 (A.D. 1652). Hem Raj Sakya found six such inscriptions with the names of the donors and the same date (Sakya, 1980: 13). It is likely that Levi's mention of the restoration work by a pious Newar in "1653" (Lévi, 1905, II: 26) refers to the same renovation of that wing of the monastery. A wooden column on the southern side of the front wing bears the date N.S. 784 (A.D. 1663)\*, which seems to confirm that during the XVIIth century the monastery was largely rebuilt. The fifteen different gilded copper "gajuras" (Tib.: ganji-ra) decorating the back wing's roof were presumably erected during the same period. Bernier (1970: 96) suggests that perhaps because Oku Bahal\*\*\*, the Newāri name designating both the Rudra Varna Mahabihar and its quarter, "was supported by the ruling Rānā family" the

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\* I copied its inscription in 1978, but I do not know whether the post has survived the restoration of 1980.

\*\* This Nepalese word, as found in the Vaṃśāvali (Wright, 1972 repr.: 210), is probably the origin of the Tibetan term ganji-ra, and designates the gilded copper architectural ornaments in the form of vases often resting on stylized lotus flowers, which surmount the roofs of Newar and Tibetan monasteries. Denwood points out that its Sanskrit equivalent is stūpika.

\*\*\* Bāhā is a Newāri term derived from the Sanskrit vihāra, a word which is in turn pronounced by the Newars as "bīhar".





16. Śuddhodana. Rudravarna Mahāvihāra. Pātan. 1943. Bronze. 2 ft. 5 in. (73.5 cm.).

monastery "has been rather well-preserved and is still an active religious institution". It is more likely, however, that the monastery's good state of preservation through the XIXth and XXth centuries is largely due to its location in the major artists' quarter in Pātan, and to the devotion of the few keepers and learned laymen forming its guṭhi, as well as to Tibetan interest in one of its chapels (cf. ch. I, pp. 41-42). As is the case with all Newar Buddhist monasteries, all functions of the Rudra Varna Mahabihar are regulated and executed through its guṭhi, which organizes and controls all the duties that devolve upon the banras: "by virtue of their monopoly of the Buddhist priesthood. These duties include the carrying out of acts of image worship, elaborate festivals and numerous communal feasts" (Greenwold, 1974: 133). The circumstance that most of the artists of Oku Bahal are Śākya and therefore banras, besides the existence of tightly knit relationships among the various families of Oku Bahal through their caste and guṭhi appurtenances, may explain how the Rudra Varna Mahabihar has benefitted from the contributions of excellent Śākya sculptors well into the nineteen-forties: the statues made by Pancha Jyoti Sakya, Punya Raj Sakya and Man Jyoti Sakya (see below) stand in its courtyard as witnesses of the devotion and art of the Newar sculptors of this century. The restoration of 1980 was sponsored by the royal family of Nepal and consisted in demolishing and rebuilding ex-novo the monastery's front wing, with the participation of skilled wood-carvers.





17. Mahāmāyā. Rudravārṇa Mahāvihāra. Pātan. 1943. Bronze. 2 ft. 5 in. (73.5 cm.).



Man Jyoti Sakya (b. January/February, 1916)

After the damage caused by the earthquake in 1934, Pancha Jyoti and other artists\* were called upon to reconstruct the upper part of the Mahābuddha temple in Pātan. On that occasion, Man Jyoti assisted his father with the modelling of a few terracotta images\*\*. He also replaced the two upper heads of a XVIIIth century gilded image of a seated Vaikuṇṭha (cf. Pal, 1970: 110 and fig. 78) enshrined in the entrance courtyard of Basantapur Palace, damaged by the same earthquake. The heads were subsequently stolen and Man Jyoti again replaced them. Father and son also sculpted the "realistic

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\* One such artist was the versatile Jog Man Sakya (c. 1886-1956), from Sikuche Bahal, Pātan, who not only contributed to the reconstruction of the temple, but also made models of it. One of them, 4' 4" high, made of bronze and painted red except for the stūpa surmounting its roof, may be admired in the National Museum of Kathmandu. Hem Raj Sakya consecrates one chapter (ch. 160, pp. 384-386) of his book on the history of the stūpa of Svayambhūnāth to that artist.

\*\* Mentioning the damage done to the temples of the Nepal Valley by the severe earthquake of 1934, a Western traveller complained that "little attempt was made to repair them. By this time the Newars (...) had become a race of petty merchants and clerks and had lost all interest in preserving their ancient skills" (Morris, 1967: 27). The same visitor maintains that "The Newars (...) in course of time lost their interest and skill in artistic pursuits" (*ibid.*: 37-8), and finds that "Kathmandu, Bhatgaon and Patan are still unique (...) but their former medieval atmosphere has gone" (*ibid.*: 27). Nowadays, however, "the visitor is chiefly aware of (the) glorious middle-age" of a city like Pātan (cf. Snellgrove, 1957: 94 and 119): "Pātan must be similar in many respects to the great Buddhist university-cities of Magadha, of which all but nothing remains". Morris's lack of appreciation for XXth century Newar art and of the historical causes of the state of disrepair of many Buddhist monuments exemplifies a somehow superficial but common Western attitude towards the present cultural condition of the Nepal Valley.

18. Padmasambhava. Padma Mahāvihāra.  
Pātan. c. 1947. Bronze. 3 ft. 9 in.  
(114 cm.).



19. Vajrapāṇi. bKa'-  
rnying dGon-pa.  
Bodhnath. c. 1952.  
Fire-gilded brass.  
3 ft. 3 in. (99 cm.).

bronze male" standing in the courtyard of the Rudra Varna Mahabihar and considered by Bernier to be an example of "incongruous European style" (Bernier, 1970: 96), but which we ought to regard with the same curious and benevolent eye that should allow any open-minded art historian to accept stylistic oddities as interesting and stimulating. According to a local tradition, it represents "Arjamber Purus", who is believed to have been "a very popular benefactor" and disciple of "Buddha's time" (Sakya, 1980: 10). According to other sources, "Arjamber Purus" was Śākyamuni's bodyguard in one of his more than five hundred previous lives, and presumably a character from some extra-canonical Newar Jātaka tale (cf. Alsop and Charlton, 1973: 31). Others believe the statue to portray the Rana prime minister Juddha Shamsher (1932-1945). The confusion about whom this 5' 11" bronze is meant to represent arose because the minister, when requested to grant permission for the erection of the statue of "Arjamber Purus", gave it only on the condition that the Buddha's bodyguard would bear his own features.

During the following years, Man Jyoti must have gradually established a reputation of his own, for he was commissioned to make a life-size statue of Padmasambhava, the first of a number of important orders from the Bhutanese royal family (cf. Alsop and Charlton, 1973: 32), who later invited him\*

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\* I understand from Michael Aris that descendants of Newar silversmiths are still active in the Thimphu Valley. On the presence of Newar metal-workers in Bhutan as early as the XVIIth century, see ch. I, pp. 8-9.





20. Padmasambhava. Karmaraj Monastery. Svayambhūnāth. c. 1958.  
Fire-gilded brass. 6 ft. 6 in. (1.98 cm.).

officially to Bhutan in 1947. Man Jyoti spent five months there visiting the country and working too. In the same period he fashioned the bronze, partially painted 3' 9" Padmasambhava for the central shrine in the Padma Mahabihar, 18 a rNying-ma monastery founded in 1940, not far from the Rudra Varna Mahabihar. The 2' 9" Śaḍakṣarī and 2' 6" Amitābha, both of fine painted clay, standing on either side of the central image, were modelled by Man Jyoti a couple of years later in 1949. At about the same time he also fashioned the 6' clay Maitreya sitting in the main shrine of the Dharmacakra Mahabihar in Jamal, Kathmandu. In 1977 the statue was restored and then painted beautifully by the master of XXth century Newar painters, Siddhi Muni Sakya. Other early clay sculptures by Man Jyoti include the Akṣobhya and Amitābha in the shrine on the upper floor of the western wing of the Rudra Varna Mahabihar (Sakya, 198: 14). By 1952, Man Jyoti had completed the four 18" gilded copper Jinas which are located around the dome of the main stūpa at Sigḥal Bihar, Kathmandu (cf. Alsop and Charlton, 1973: 32 and 44-5). The fifth one, Vairocana, is a later addition by a minor artisan. He then started training artists in his workshop: Siddhi Raj Sakya, one of the best sculptors of the generation following Man Jyoti's activity in Nepal, was his apprentice for three years. During the same period, Man Jyoti modelled a 3' 3" brass Vajrapāṇi, now in the teaching-room of the abbot of the 19 bKa'-rNying monastery in Bodhnāth. In c. 1958, Man Jyoti made a 6' 6" gilded brass image of Padmasambhava (cf. Alsop and 20 Charlton, 1973: 31-2) which, according to Hem Raj Sakya, had





21 . Maitreya. Maitreya Monastery. Svayambhūnāth. 1955. Parcel-  
-gilt brass. 6 ft. 8 in. (203 cm.).





22. Akṣobhya. Maitreya Monastery. Svayambhūnāth. 1955. Fire-gilded brass. 3 ft. 2 in. (96.5 cm.).





23. Klong-chen-rab-'byams-pa. Nepal. c. 1958. Brass.  $4\frac{1}{2}$  in.  
(11 cm.). Collection of the author.

originally been commissioned by a monastery in Kyirong. As a consequence of the Lhasa uprising of 1959, the statue reached instead its present location in the Karmaraj monastery at the top of Svayambhūnāth in about 1960; but not before another vicissitude: its right foot was stolen and Man Jyoti had to model another. The statue, partially painted, occupies the left niche of the shrine at the entrance to that monastery, which was founded in 1955. During the same year, the dGe-lugs-pa Maitreya monastery was erected in the depression between the Sarasvatī and Svayambhū hills. That meant more work for Man Jyoti, who was commissioned to make the 6' 8" gilded brass Maitreya which occupies the central niche of the shrine, and also the 3' 2" crowned Akṣobhya which sits on its right. Their gilded copper auras, crowns and ornaments are the work of Kesh Raj Sakya. Before the Chinese invasion of Tibet in 1959, Man Jyoti was commissioned to make five hundred statuettes to be offered to the XIVth Dalai Lama by a Newar merchant. To that set belongs a 4½" figure of a foremost rNying-ma-pa scholar, Klong-chen (1308-1363)\* who compiled the Klong-chen-snying-thig, one of the most important works belonging to the rNying-ma-pa school of Tibetan Buddhism. The statue was cast in an unusual alloy of brass and silver, and owing to its brittleness, it was chased with great difficulty by Chaitya Raj Sakya (see above, p. 57) in September, 1978: the original sword and part of the lotus flower on which it rested were broken. The statuettes commissioned by the Newar merchant never reached Lhasa subsequent to the Chinese invasion of Tibet and their present

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24. Maitreya. Dharmacakra Monastery. Svayambhūnāth. 1962.  
Parcel-gilt brass. 3 ft. 9 in. (114 cm.).





25A. Śākyamuni. Monastery of Rikon. 1970. Fire-gilded brass.  
4 ft. (220 cm.).

location is unknown.

In c. 1960, when beginning to work on a 6½' Śākyamuni for Lumbini (cf. Alsop and Charlton, 1973: 32), Man Jyoti first developed the pain in his elbow which, along with other incidents, was later to put an end to his activity as an artist. He then journeyed to the monastery of Ba-khang\* in Helambu to make a 9' clay statue of the same subject - clay being easier to work - in the hope of improving his health at the same time. The wax model for Lumbini was completed by 1962, the statue cast in brass and only the hands and face were gilded. It was consecrated that year. During the same period, Man Jyoti sculpted a 3' 9" Maitreya for the Dharmacakra monastery\*\* on Sarasvatī hill. In c. 1966, for a realistic life-size gilded brass image of Śrī Sai Babā\*\*\* which had been commissioned for a private shrine in Bombay, he drew his inspiration from Bodhi and Siddhi Raj's statue of the same saint at Balaju, Nepal Valley. After that, Man Jyoti worked on a Hindu subject, the 1' 7½" gilded brass Gaṇeśa in Nhaya-

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\* Cf. Alsop and Charlton, (1973: 32) The monastery was founded around 1934 under the auspices of a Bhutanese monk and I visited it on November 14-15, 1975.

\*\* Cf. Alsop and Charlton (1973: 32). This was the second monastery to be built in the Svayambhūnāth compound, the first being the so-called Tamang monastery. Hem Raj Sakya gives 1947 as the date of its foundation on p. 593 of his Shree Swayambhu Mahachaitya.

\*\*\* On Sai Baba (1856-1918), an Indian holy man little known in the West, see Osborne (1975).





25. Gaṇeśa. Kathmandu. c. 1966. Fire-gilded brass. 1 ft. 7½ in.  
(49.5 cm.).



kontala (Nhenkan), Kathmandu. Besides his conventional attributes of axe, rosary and sweetmeat, this particular aspect of the elephant-headed god holds a white radish, perhaps a symbol of peace, in his lower right hand\*. In 1969, together with his brother Tej Jyoti (b. 1920), the caster of most of his statues, Man Jyoti made a 3' 8" bronze butter-lamp\*\*, now standing near the western side of the main stūpa at Svayambhūnāth. The lotus-shaped bowl of the lamp surmounts a stand in the form of an amṛta kalāśa resting on lotus petals, the lid being a later addition. That same year, he was commissioned by the Nepalese royal family to make a score of gilded copper Buddhist and Hindu deities of various sizes for a 5' high landscape model with a two-roofed pagoda surmounting a main hill and a stūpa on the top of a side hillock. When completed with Man Jyoti's statues, the model was presented by king Mahendra to the president of the United States during his official visit to that country. For the

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\* A 13½" x 10" ink drawing belonging to Man Jyoti's collection portrays the god holding the same attribute in the same hand. J. M. Pradhan, who has been doing research on the cult and iconography of Gaṇeśa in Nepal, told me that the white of the radish is a symbol of sentience and peace of mind. In Tibetan iconography, the white turnip is regarded as a demon-defeating attribute (cf. Waddell, 1971 repr.: 394). Getty (1971: 18, 31-2 and 41) tentatively suggests that the radish, "almost unknown in India, is a favourite attribute" of Gaṇeśa's in Nepal and Tibet, perhaps because of a misinterpretation of his Hindu symbol of the tusk, often badly executed. Mistakes of this kind have occurred in the past and become tradition. Contemporary instances of this phenomenon may be quoted too.

\*\* Inscribed with the Newar year 1090.

\*\*\* Although I have seen photographs of the finished model with Man Jyoti standing by it, I have had no success in trying to trace its present location in the U. S. A.

anniversary of the Buddha's birth, which falls on the first full-moon day of the month of Baisak (April-May), in 1970, devotees from Oku Bahal commissioned Man Jyoti to fashion a 2' 5" parcel gilt Śākyamuni which was carried in procession during that festival and is now kept in the first-floor shrine-room on the south-western side of the courtyard of the Hiranya Varna Mahabihar in Pātan. During the same period he made a 4' heavily gilded image of Śākyamuni for the Tibetan centre of Rikon, Switzerland (cf. Alsop and Charlton, 25A 1973: 32). Towards the end of 1970, Man Jyoti was again invited to Bhutan by its royal family, this time to teach wax-modelling to a class of three pupils\*. He remembers them as being unwilling to learn, even hostile, and after a stay of four months, returned to Pātan.

Statues by Man Jyoti are to be found in India, the U. S. A., Japan, Italy and the U. K. His patrons include not only the royal families of Nepal and Bhutan, but also

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\* During one of his stays in Bhutan, Michael Aris met Man Jyoti "at Dechen Choling (the royal palace in Thimphu) on the 13th November 1970 in company with the Nepalese politician Harsha Gurung. They had both come to Bhutan in the company of the well known Bhutanese teacher who lives in Kathmandu, Lobpon Tsechu. The Newari had worked in central Bhutan at Bumthang many years ago under royal patronage, and in Bumthang" Aris "met a father and his son (the latter called Yeshe Penjor) who had worked under his direction casting images. The Newari was of the Shakya caste and came from a famous family of hereditary craftsmen settled at Patan. In 1970 the plan was that he should cast 10, 000 images of the lord Buddha for one of the grand projects devised by the King, probably under the inspiration of his mother Ashi Phuntsok Chöddön". Aris recollects that "the plan ran into all kinds of difficulties" and does not know "if it was ever completed.". Apparently, however, "a workshop was established at Phuntsoling but (...) the craftsman returned to Patan before long and some attempt was made to complete the order there.". I am very grateful to Michael Aris for the above personal communication (22nd September, 1980).

26. Padmasambhava.  
Iconometric drawing  
from one of Man Jyoti  
Sakya's sketchbooks.  
1958.



27. Maudgalyāyana  
and Jambhala. Rudra-  
varṇa Mahāvihāra.  
Pātan. c. 1900. 1 ft.  
7 in. (48 cm.) and  
11½ in. (29 cm.).

the Dalai Lama and his teachers. One of the last orders he received before becoming unable to work, was a replacement for the statue of Vajravārāhī, Nepal Valley, stolen from its site in 1971. He had to complete the image of Vajravārāhī within six months, in time for the yearly festival during which the deity is shown to devotees and taken in procession by chariot. The goddess, which for the rest of the year is kept in a shrine room not far from the main temple, was cast in bronze and then gilded; it measures 1' 7½" in height\*. Finally, I should mention another bronze image, a 2' Vajrapāṇi cast in 1973 for and studied by Alsop and Charlton (1973: 46). Man Jyoti stopped working from June 10, 1974.

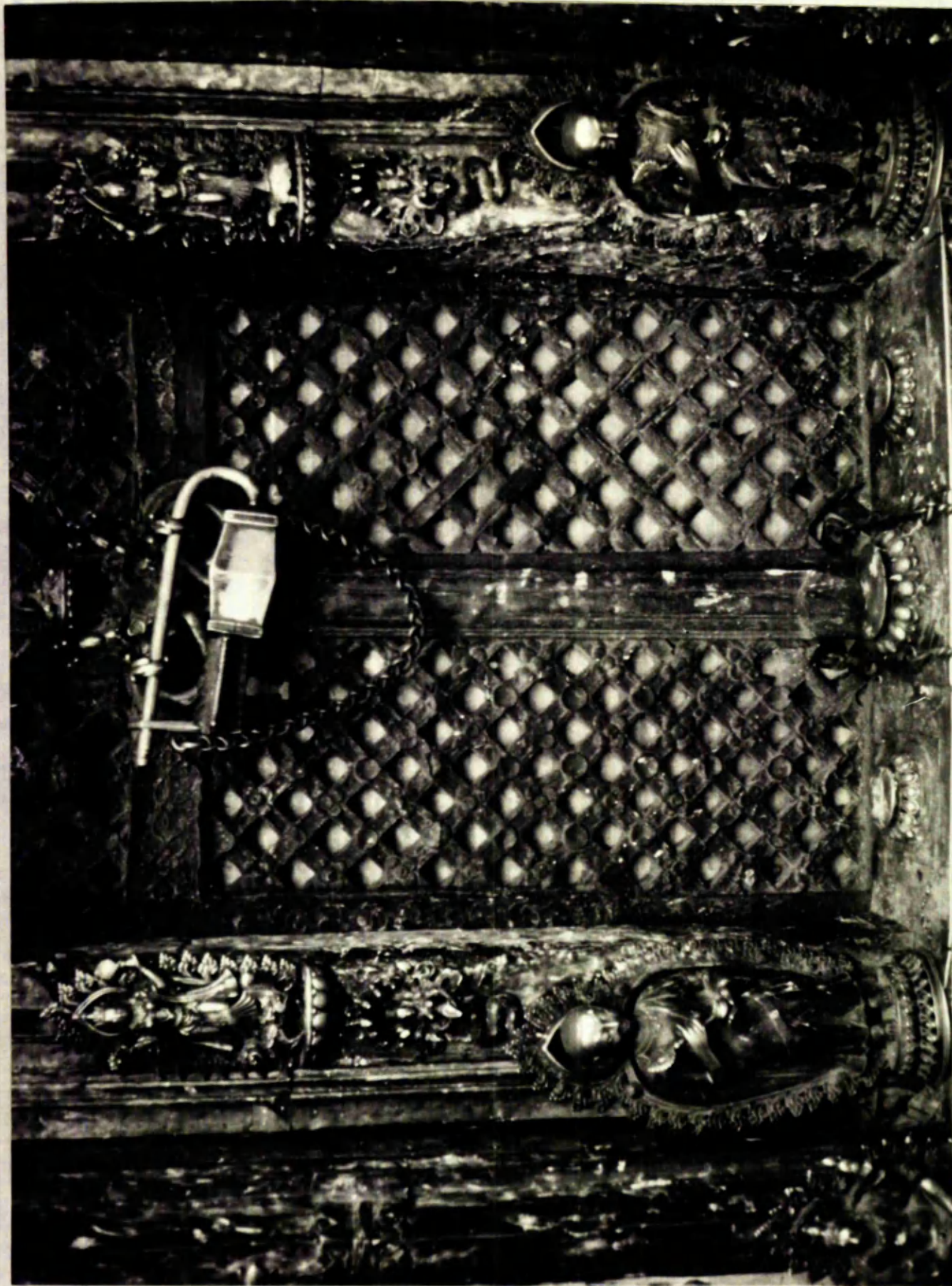
As is clear from this short account of Man Jyoti's life and main works, the majority of his subjects belong to the Buddhist pantheon, and their style exemplifies the final stage of that amalgamation of Tibetan and Newar art which started not later than the XIIIth century and to which it may be appropriate to refer to with the term "Tibeto-Newar" (cf. ch. I). The Tibetan influence on Man Jyoti's art is confirmed by his various iconographic sources, one being a seemingly old Tibetan iconometric book of fine pen drawings on canvas, and another a sketchbook of brush drawings on paper, especially prepared for him in 1958 by a Sherpa painter

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\* A four-armed aspect of the same iconographic type, with a sow head only is illustrated by Gordon (1959: opp. p. 80) and described as Aryavajravārāhī. Her two legs trample on a female corpse, whereas Man Jyoti's Vajravārāhī dances treading on buffaloes.





28. Śāriputra and Maudgalyāyana, Nāgīs, Yamunā and Gaṅgā.  
Rudravarṇa Mahāvihāra. c. 1900. Brass.

from Shar-Khumbu, during his two-month stay at Man Jyoti's house in Pātan. This latter album is the one referred to by Alsop and Charlton as having been drawn "by a Tibetan artist" (Alsop and Charlton, 1973: 31 and 50). In any case, I am inclined to believe that by the early nineteen-fifties, the iconographic and iconometric characteristics of the Buddhist pantheon had already been memorized and assimilated by Man Jyoti.

Siddhi Raj Sakya (b. c. 1922)

One of Man Jyoti's most prominent pupils, Siddhi Raj Sakya began wax-modelling on his own when still very young, in the early nineteen-thirties while still learning the traditional family trade of casting pots\*. His father, Punya Raj Sakya (1881-1922), although not a sculptor by profession, produced some fine statues as offerings to monasteries; noticeably the brass images of Śāriputra and Maudgalyāyana, 28,29 both 1' 7" high, two 11½" Jambhalas, a pair of 8" Nāgī, 27 and the goddesses Yamunā, 1' 2" high, and Gaṅgā, 1' 3" high, wrongly identified by Alsop and Charlton as "Lakshmi"\*\*, all

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\* Brass and bronze kitchen-ware has always been fashioned by the lost-wax process, thus allowing the tradition of wax-modelling to survive when, after the Gorkha conquest, the Newars had lost the political and economic power upon which the artistic patronage of their monasteries depended.

\*\* Cf. Alsop and Charlton (1973: 32). One of another pair of these river deities in one of the courtyards of the royal palace in Pātan is illustrated by Macdonald and Stahl (1979: 110). Gaṅgā holds a mirror in her left hand and dances on a makara's head, while Yamunā holds a tiered pot in her right hand and dances on a tortoise. The mirror originally held by the Gaṅgā illustrated by Macdonald and Stahl has been stolen and its support has been left bare. The same goes for the Yamunā which stands on the other side of the same entrance, as illustrated by Rouvre (1975: 137). Early statues of both deities are to be found in Kulu and Paśupatinath (Goetz, 1969: pl. III and XLIX and Pal, 1974, I: No. 216). For another Malla period pair see Singh (1971: 192-3).





29. Maudgalyāyana (detail). Rudravarṇa Mahāvihāra. Pātan. c. 1900. Brass. 1 ft. 7 in. (48 cm.).

of which surround the shrine door of the Rudra Varna Mahabihar. 28  
 Unhappy with his progress in sculpting, in the early fifties Siddhi Raj requested and obtained Man Jyoti's tuition. He spent three years in the latter's workshop and during that period, together with his brother Bodhi Raj Sakya, he made the half-ton bronze bell for the courtyard of the Parvatī temple at Guhyeṣorī, Nepal Valley\*. After an interlude touring India, Siddhi Raj resumed his activity as a prolific sculptor and in the sixties he produced a number of icons to be found in various private shrines, including his own. A first order for a set of twenty-one Tārās, averaging 8" in height, came to Siddhi Raj from the Bhutanese royal family in 1968.

One of the most unusual images modelled by Siddhi Raj is an 8" male Citipati made in c. 1970 and cast in copper, as is 30  
 the case for most of Siddhi Raj's production. A deity frequently encountered in the Tibetan pantheon, both in painting, and in statuary (cf. Tucci, 1967: 122, fig. 4 and Getty, 1959: opp. 95), Citipati is rarely portrayed by the Newars, who, however, are well acquainted with it under the name of "Nkowa". An example of a brass Citipati holding a lamp (Dīpa-Citipati?) stands on the balustrade in front of the Annapurna temple in Asan Tole, Kathmandu. Siddhi Raj made his image with the help of a photograph of the anatomy of the human skeleton and perhaps also had in mind the Citipati of the Annapurna temple, whose penis, partially broken, is still visible. All

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\* The ability of the Newars to cast monumental bells was noticed by Lévi (1905, I: 306). Cf. ch. I., pp. 22-3.





30. Citipati. Nepal. c. 1970. Copper. 8 in. (20 cm.). Musée d'Ethnographie. Geneva.

the elements of Citipati's traditional iconography are to be found in Siddhi Raj's image. The single-lotus pedestal and dancing posture with a raised leg are common to almost all representations of Citipati, whether in painting or sculpture. The conch shell beneath the left foot is to be found in most of his images, for example, Getty (1928: pl. LV), Maraini (1952: pl. 7), Sierskma (1966: 275, No. 23) and Daggyab (1977, II: 7). The long scarf, falling usually to below the knees, the coronet, though not necessarily made of skulls, and the loincloth, which normally hangs from the waist rather than the thighs, as is the case here (cf. Daggyab, 1977, II:7), are all recurrent attributes of Citipati. The presence of some dismembered part of a human corpse held in one of Citipati's raised hands, usually the right one, is also common. The yak-hair wigs protruding from either side of the back of the skull are found in most representations of the Lord of Cemeteries, including the masks used to enact his character in Tibetan dances and plays. One of Siddhi Raj's Citipati's was acquired by the Geneva Ethnographic Museum and labelled as "Tibet, XIXth cent.", though described as "Nepal, XXth cent." by the vendor. Siddhi Raj also modelled pairs of dancing skeletons, but they are extremely rare, and even fine images of his Citipati, such as that at Geneva, are difficult to find, for their fragile bone structure is not easy to cast.

For ~~three~~ years, (1971-1973) , Siddhi Raj taught sculpting to two Bhutanese monks in Pātan until, on the occasion of the coronation of their present king, they had to return home. He presented them with six of his thāsās - wax or clay mould



31. Bāla Kumārī.  
Bāl Kumārī. Pātan.  
1975. Fire-gilded  
brass. 1 ft 7½ in.  
(49.5 cm.)



32. Bodhi Raj Sakya in the southern courtyard of the Rudra-  
varṇa Mahāvihāra. September 1978.



sets which help the artist to model again the various parts of the same image in a shorter period of time - and his pupils in their turn invited him<sup>m</sup> to accompany them to Bhutan. Siddhi Raj spent one month and a half in the capital, Thimphu. There are many of Siddhi Raj's works in Bhutan, but none of them was sculpted during his stay there; they were all commissioned through the Bhutanese chargé d'affaires in Nepal and made in Pātan. Statues by Siddhi Raj are also to be found in India and the West. During the same period, he received a very important order from the Nepalese royal family for their shrine at Hanuman Dhoka: a set of twenty-eight gilded bronze deities belonging to the Hindu pantheon, ranging between 6" and 18" in height, which may apparently be seen only during the first nine days of Dasāī. For the iconography of this particular set, royal pandits provided the artist with a text. Other texts were given to him by Man Jyoti but, like all the major Himalayan artists, Siddhi Raj claims to be able to remember iconography and iconometry by heart. His 1'7½" high masterpiece of Bāla Kumārī riding a peacock was cast in brass and gilded in 1975 to replace a more ancient idol lost by robbery in the same year from the temple of Bāl Kumārī in the outskirts of Pātan. 31

Bodhi Raj Sakya (b. March/April\*, 1920)

An orphan from the age of two, Bodhi Raj gained his knowledge of wax-modelling by watching other artists at work, though he was never trained or influenced by any particular one of them. He started sculpting at the age of seven and is 32

\* On the third day of the new moon, in the month of Chaitra.

by no means less capable than his brother, Siddhi Raj. Like him, he works mostly for art dealers and private collectors, and his output, mostly cast in copper and mercury-gilded, reaches sixty figures a year.

To the period of his collaboration with his brother belong the large bronze bell for the temple at Guhyeṣorī and a pair of 18" lions for the shrine of Mahāmañjuśrī (1957), Nepal Valley. Around the same year, Bodhi Raj made the first of a 14" image of Cintāmaṇilokeśvara, an aspect of Avalokiteśvara derived from a legend according to which the bodhisattva created a wish-fulfilling tree from which human beings could obtain whatever they desired. A metal image portraying the deity is shown in the Pātan Museum. Originally, Bodhi Raj had received orders for two or three such images from Nepalese dealers who intended to export them. They were stopped from doing so, however, by the Archaeological Department of Kathmandu which considered them to be antiques and did not issue the export permit necessary to ship any art object out of Nepal. In order to convince the Department of the contrary, Bodhi Raj produced six copies of the image, but failed to obtain the desired effect: he had to make at least six more copies before the experts of the museum realized their mistake and granted an export permit much later on. This episode is important in that it gives us an approximate date after which unscrupulous dealers must have realized that it was possible to pass off much of the XXth century statuary as antique. The next step in this kind of fraud (see ch. IV, p. 230)

was to age contemporary statues artificially, a process which must still be successful, for I actually saw it applied to small and large, crude or fine, brass or gilded images as late as 1978. It is interesting to note that in the autumn of 1974 I experienced great difficulty in obtaining a Museum export permit for a 5" copper statuette of Mañjuśrī of which Bodhi Raj has produced at least fifty copies since 1966. Although the image had not undergone any kind of ageing adulteration, it could be mailed to Europe only thanks to the services of a shipping company, and that still with some difficulties. By 1978, however, a scholar of great integrity, Hem Raj Sakya, had been appointed as export-permit officer at the Department of Archaeology and such incidents have never been heard of since: besides his scholarly background, Hem Raj Sakya has a first-hand knowledge of the artists and workshops of Pātan, where he lives.

It must be mentioned that Bodhi Raj Sakya made an attempt to make his statues easily identifiable, by adding for some time a small distinctive decorative element to the ornamentation of his figures. He subsequently abandoned that device, after realizing that it was being copied by other artists. This circumstance, coupled with the fine quality of his production, as is the case for all the artists examined here, increases the likelihood of artificial ageing and fraud of individual pieces, which now and then manage to reach the Western art market.

In 1964, Bodhi and Siddhi Raj sculpted the 4' gilded brass image of Śrī Sai Baba\* to be found in an open circular

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\* See above, p. 67. The statue is located in a pavilion on the premises of the Nepal Distilleries Ltd.

33. Śrī Sai Baba.  
Balaju, Nepal Valley.  
1964. Fire-gilded  
brass. 4 ft. (220 cm.).



34. Śamvara. Nepal.  
1975. Fire-gilded  
copper. 12½ in.  
(32 cm.). Collection  
of the author.



shrine at Balaju. Cast in more than one piece, the statue is evidence of its artists' ability to treat a subject with a realistic approach, as the folds of the ragged garment, the scarf and the very attitude of the yogi, sitting in a Western posture with his right leg across his left knee, prove. The crown is an unfortunate later addition.

In 1966, Bodhi Raj left the family home which he had shared with Siddhi Raj for forty-six years and moved to a new house, adjoining Rudra Varna Mahabihar, where he works assisted by up to five apprentices, including his sons Bodhi Ratna (b. 1955) and Sanu (b. 1961).

For iconographic reference, Bodhi Raj occasionally makes use of a "cha-cha", one of those liturgical texts used by Newars, consisting not only of detailed prescriptions for the performance of rituals and descriptions of mudrās, āsanas, and meditation techniques, but also hymns and iconographic indications concerning the deity, or deities, to which they are dedicated. Bodhi Raj's manuscript text is written in Newāri and Sanskrit, the script being Newāri, and consists of 156 pages of five lines each. According to Hem Raj Sakya, it was copied about thirty years ago and is now incomplete. Its extant parts are concerned mostly with Samvara, and, to a lesser degree, with Mañjuśrī. Bodhi Raj did refer to that text to fashion his 5" Mañjuśrī mentioned above, and used it extensively when he first made a 6" Śamvara in 1965, a task which took him a month. According to Alsop and Charlton (1973: 47), "Bodhi Raj originally made this image on the order of a Newari curio shop owner (...)

35. Samvara (detail).  
Nepal. 1975. Fire-  
-gilded copper. 12 $\frac{3}{4}$  in.  
(32 cm.). Collection of  
the author.



36. White Jambhala.  
Nepal. 1975. Fire-  
-gilded copper. 8  
in. (20.5 cm.).  
Collection of the  
author.

He worked with a small Tibetan statue as a model...". In 1968, the artist enlarged the same image to 13" in height and has produced about thirty examples of it since. Bodhi Raj's *Samvara* illustrates well how difficult it is to assign 34  
much of Newar and Tibetan statuary to one style or the other, 35  
and serves the purpose of justifying the use of the adjective "Tibeto-Newar" to qualify those images in which the two cultural influences seem to have merged.

During the same year, Bodhi Raj made his first 8" White 36  
*Jambhala*\*. Besides using a Tibetan iconographic source for his subject, the artist saw a statue and a thang-ka of the same deity. Apart from the design of the single-lotus stand and a few other minor details, Bodhi Raj's image strikingly resembles a solid silver image of *Jambhala* riding a dragon illustrated and described in Spink's catalogue The Art of Nepal and Tibet (1979: 69, No. 71).

The *Vajrasattva* and *Indra* studied by Alsop and Charlton (1973: 46-9) were first made by Bodhi Raj in c. 1969. The artist maintains that the iconographic source of the former was a stone statue located outside a temple at Bungamati, whose details Bodhi Raj studied and retained mentally, while an old Newar image brought to the sculptor by the customer was the model for his *Indra*. In 1972, Bodhi Raj was commissioned

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\* For this iconographic type, see, for example, Lowry (1973: 20-1) and Olschak (1973: 176-7).

by a businessman to make a 3' statue of Yamāntaka (cf. Alsop and Charlton, 1973: 34) from an old image kept in the Archaeological Museum of Svayambhūnāth. Only one copy of that large and complicated statue exists and unfortunately it has been shipped abroad. Another tour-de-force was undertaken by the artist in 1973 when he modelled the first of four 22½" copper images of Hevajra (cf. Alsop and Charlton, 1973: 34). The copy I saw was ungilded and inlaid with silver. It was on sale for the equivalent of about £ stg. 1, 500 in 1978.

Finally, I should mention the 2' 2" gilded copper image of White Tārā made by Bodhi Raj for the Hotel Malla, Kathmandu. It is located on the reception desk of that hotel; its lack of a lotus stand and the poor quality of the chasing do not do justice to the artist's skill. Statues by Bodhi Raj Sakya are to be found in private shrines, too.

A cousin of Bodhi Raj and Siddhi Raj's, Sanu Kaji Sakya (b. 1942), also follows the family's recently established tradition of sculpting, their elders being, in fact, pot casters. Sanu Kaji casts his own images, mostly in brass. In c. 1966, Sanu Kaji made a brass triad consisting of a 10" Kṛṣṇa with 8" images of Rādhā and Rukmiṇī at his sides, for a shrine at Bhatgaon. A fine silver-inlaid and parcel gilt 18½" Dīpaṅkara inset with stones was made by him in c. 1975 for the shrine in the workshop of the master chaser Siddhi Raj Sakya (b. c. 1934) and of his very talented son, Purna Man Sakya (b. 1957), in Oku Bahal. Siddhi Raj chased the image's face and the two Buddhas decorating its chest and





37. Blo-bzang-grags-pa. Maitreya Monastery. Svayambhūnāth.  
c. 1967. Fire-gilded brass. 2 ft. 6 in. (76 cm.).



38. mKhas-grub-rje. Maitreya Monastery. Svayambhūnāth.  
c. 1967. Fire-gilded brass. 1 ft. 4 in. (40.5 cm.).



garment and Purna Man chased the rest of the image, including the inscription om manipadme hūm on the bottom hem at the back of the garment. The combination of partial gilding and inlay work is very rare in Tibetan and Himalayan statuary.

Nhuche Raj Sakya (b. September/October, 1933)\*

Nhuche Raj Sakya also belongs to the family of Bodhi and Siddhi Raj. A self-taught sculptor, he entered the profession seriously at the age of twenty-one. Nhuche Raj's career and mode of work exemplify those of all the Newar sculptors of his generation. As is the case with most of them, he was born in a Sakya family of metal pot-casters.\*\* Since cast metal pots are produced by the lost-wax process, Nhuche Raj may have gained some experience in fashioning wax for hollow-casting and in metallurgy from his father and grandfather, who was Punya Raj Sakya's brother (see above, p. 71). His decision in 1954 to become a professional sculptor was mainly financial and is connected with the circumstance that after 1951 more and more Westerners were given the opportunity of visiting Nepal and the demand for metal statues increased. Since 1959, Tibetan exiles, too, have begun to order images for their newly-built monasteries and private shrines, and Nhuche Raj has been commissioned to make statues mostly for Tibetan patrons settled in India, but also for Tibetan

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\* On the day before the full moon, in the month of Aswin.

\*\* Casting metal images as well as cooking utensils is a hereditary occupation of the banras (see above, p. 49).



39. Candarogana. Nepal. c. 1969. Copper inlaid with silver.  
10 $\frac{1}{2}$  in. (27;5 cm.). Aniko Collection.

monasteries in Nepal. Married, but without children, Nhuche spends most of his time in his workshop, where he is assisted by up to eight apprentices, some of them family members. He produces a maximum of twenty-five wax models a year, which are cast mostly in copper and, as is the rule with all Newar sculptors, makes a "thāsā" set (see ch. IV, pp. 206-207) for each of them. He has never used iconographic texts for his work, but uses mostly pictures instead. Although he regards himself as a specialist in fashioning Buddha images, he is at ease with both the Hindu and Buddhist pantheons and with a variety of styles. Examples of his work are to be found at Bodhnāth as well as in India. A gilded brass triad of Tsong-kha-pa, 2' 6" high, flanked by rGyal-tshab-rje and mKhas-grub-rje, both 1' 4" high, was made by him in c. 1967 for the right niche of the shrine in the assembly-hall of the Maitreya monastery at Svayambhūnāth. 37 38

To illustrate Nhuche Raj's talent in adapting to different statuary traditions, it will be sufficient to analyze two of his works which were not meant for religious purposes, but for the contemporary art market. One is his 11" Caṇḍaroṣaṇa (c. 1969), a Hindu divinity long ago absorbed into the Buddhist pantheon (Snellgrove, 1957: 78), and which Nhuche Raj cast in copper and inlaid with silver. Stylistically, it is reminiscent of a group of Tibetan metal images portraying terrifying deities, like the wrathful manifestation of Vajrapāṇi illustrated by Pal (1969: 99, fig. 67) and by Béguin (1977: 171, No. 187). According to Béguin, the triple pendant on the chest and the knot of the waist-band of that deity 39



40. Vaikunṭha. Nepal. c. 1971. Copper inlaid with silver.  
21½ in. (55 cm.). Aniko Collection.

suggest Chinese models. However, in Nhuche Raj's work, the ancient Indian, and subsequently Tibetan, tradition of inlay work combines with the Chinese motifs to create an image which, for all stylistic purposes, is essentially Tibetan: how different Nhuche Raj's version is from the one in traditional Newar style may be appreciated by comparing it with the ~~XVIII~~IXth century Newar paṭa illustrated as No. 112 in Christie's catalogue of the sale "Kugti" of June 13, 1979.\*

A striking example of Nhuche Raj's ability to work in a style alien to the Tibeto-Newar statuary tradition current in Nepal is provided by his 21<sup>1/2</sup>" Vaikuṇṭha, which was first 40,41  
cast in 1971 and has been widely copied by less skilled 78  
artisans since. It is possible that Nhuche Raj's source of 86  
inspiration was a IXth century 3' 10" standing brass image of Viṣṇu as the Vaikuṇṭha Chatumūrti from the Hari Rāī temple in Chamba town, which was studied and illustrated by Gorakshkar (1971: 40-5, figs. 36-42) and by Pal (1975: 214-6).

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\* Iconographers seem to confuse Caṇḍaroṣaṇa with a form of Mañjuśrī termed by them "Kālamañjuśrī". Caṇḍaroṣaṇa belongs to Akṣobhya's vajra-family (Snellgrove, 1957: 78) whereas in later Buddhism, Mañjuśrī moved from Vairocana's wheel-family to Amitābha's lotus-family (Snellgrove, 1957: 65-7) and there was never a question of his being included in the same family as Caṇḍaroṣaṇa. The fact that Christie's paṭa portrays Caṇḍaroṣaṇa and not "Kālamañjuśrī" is confirmed by the circumstance that Caṇḍaroṣaṇa's family head, Akṣobhya, occupies the central position in the row of jinas above his head. The same applies to No. 83 of the same catalogue, where Akṣobhya appears in the crown of a XIIIth/XIVth century Ladakhi Caṇḍaroṣaṇa, again wrongly described as "Kalamanjusri", a deity which I have never heard mentioned in either Nepal or Ladakh.

\*\* Total height: 138.5cm. For another replica of the same image see ch. IV, pp. 232-3. On the copying of alien styles see "Foreword", pp. III-IV.





41. Vaikuntha. Nepal. c. 1971. Copper inlaid with silver.  
21 $\frac{1}{2}$  in. (55 cm.). Anikó Collection.

Curiously enough, Nhuche Raj replaced the back fierce face of Kapila, with that of a buffalo. The artists acknowledges 41 having used a picture as his iconographic source, and having been advised by his patron for the iconography of the back face. The material in which Nhuche Raj cast his Vaikuṇṭha, copper, differs from that of his Chamba model, brass. Furthermore, he made it in six different parts, — body, crown, stand, Gadādevī, Cakrapuruṣa, and Prthvī, — whereas Gorakshkar says that the Chamba statue "appears to have been cast as a single piece" (Gorakshkar, 1971: 40). Notwithstanding such differences\*, Nhuche Raj's Vaikuṇṭha has all the appearance of a masterpiece. The silver inlay work is consistent with the northern Indian statuary tradition\*\* which inspired the artist's work. Vaikuṇṭha is known in Nepal, although his worship there has never been as popular as in north-western India. The artist's misinterpretation of a few iconographic details should not prevent our appreciating the aesthetic qualities of a work which in the main follows the description of Vaikuṇṭha in the Viṣṇudharmottarapurāṇa, for similar mistakes have undoubtedly contributed to enriching iconography

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\* The Vaikuṇṭha of the Aniko Collection (No. 163) had its Prthvī made by Rajesh Kumar (see below, p. 86), owing to the loss of the original piece by Nhuche Raj. Rajesh Kumar misunderstood Prthvī's gesture of supporting the god on her two outstretched hands as mudrās and her attitude of emerging from the earth as an āsana. However, his rendering should not obscure his great skill in modelling such a small statue so finely. The statuette was chased by Manik 83 Ratna Sakya (b. 1957), a cousin of Purna Man Sakya, who also works for the chaser Siddhi Raj Sakya (see above, p. 79).

\*\* Cf. ch. III, p. 171. The chasing of this statue was done by Sangha Ratna Sakya (see below, p. 87).

in the past\*. In this connection, it may be interesting to note that neither of the two ancient Vaikunṭha images known in Nepal\*\* "agree with any known literary description." (Pal, 1970: 112). The fact that Nhuche Raj Sakya followed a Chamba iconic type to fashion his Vaikunṭha should not surprise anyone aware of the circumstance that Tibetan and Himalayan artists have copied foreign images not just during the formative periods of their traditions, but whenever their patrons requested them to do so\*\*\*, or whenever their curiosity was stimulated by a style different from the traditional one. Furthermore, it should be noted that Nhuche Raj's model belongs to the same Himalayan culture as that of Nepal, and that contacts between Kashmir and Nepal have existed for a long time\*\*\*\*. In the XVIth century, artists from Nepal went to work in Kashmir (Goetz, 1969: 109

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\* See, for example, p. 68, n. 1. Cf. ch. V, pp. 248-9.

\*\* For one of them, see above, p. 63.

\*\*\* For a discussion of "copying", see "Foreword", pp. II-V.

\*\*\*\* Probably from at least the VIIIth century A.D., when king Jayapīda of Kashmir organized an expedition against Aramūḍi, a ruler of Nepal. Goetz (1969: 184) takes Aramūḍi to be a "Tibetan general". The presence of Kashmiri merchants, having "offices and shops" in Kathmandu in the early XVIIth century is attested by Desideri (De Filippi, 1937: 317). Two Kashmiri "houses" were still active in Nepal in 1774 (Regmi, 1971: 148). In 1875, Wright (1972 repr.: 27) noted that "a few Musulmāns, consisting of Kashmīrī and Irākī merchants, live in Kathmāndū. The former have been established there for several generations. Altogether they do not number more than about one thousand." On the Kashmiri Muslims of Nepal, see, for example, Gaborieau (1966: 124 and 126). According to the oral tradition, the first Muslims arriving in Nepal were Kashmiri who traded wool between India and Tibet. They still are the most ancient nucleus of Nepalese Muslims and are generally regarded as superior to later Muslim arrivals.

and 145) and Goetz recognizes the "admixture of motives and decorative details from Nepāl" in the Chamba imitative sculpture of the XVith-XVIIth centuries (Goetz, 1969: 147-8)\*. Early contacts between Newar and Kashmiri artists are attested by the collaboration of two artists, "a Nepalese Aśvadharmā and a Kashmirian Vañ ku la" in the manufacture of three silver images still worshipped at Kojarnāth (Tucci, 1956: 61-2 and 1937: 40 and pl. *between pp. 44-5*). In his study of the Divsar frame (see *ch. III*, p. 132, n.3), Goetz maintains that motifs going back to the Kushan tradition of Gandhara "were, later on, taken over in Nepālese art" and that other elements of Sassanian heritage later found their way into Nepalese art (Goetz, 1969: 84). He also notices the intrusion of Kashmiri elements into early Nepalese statuary from the time of Lalitāditya of Kashmir (Goetz, 1969: 184 and 188-9), when Vaishnavism became the predominant religion in Kashmir and Vaikunṭha images were being worshipped (cf. Gorakshkar, 1971: 44). A Kashmiri style brass Buddha seated on a lion throne is manufactured by Newar artists, who are aware of its stylistic provenance. For these reasons, Nhuche Raj's Vaikunṭha may be regarded as symbolic of the complex cultural exchanges which have contributed to promote and enliven the various statuary traditions which are still continued in the Himālayas.

Kalu Kuma (b. June 23, 1933)

One of the most original sculptors of Oku Bahal is Kalu

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\* Following Tāranātha, who wrote in 1608, Kong-sprul (Chandra, ed., 1970: 570, ll. 3-4) states that "in the country of Nepal, the early tradition of sculpture was similar to the Old Western one", which flourished also in Kashmir.





42. Garuḍa. Nepal. 1971. Copper. 17 in. (43.5 cm.). Aniko Collection.



Kuma\* Jache Prajapati Thakur, a contemporary of Nhuche Raj Sakya. Although his father, a farmer, did not foster his son's artistic vocation, Kalu Kuma started sculpting in his childhood. In 1955, he suffered from an illness which kept him housebound for six months, and during that period he relieved his boredom by spending much of his time modelling in clay. Thanks to that forced immobility, Kalu Kuma was able to develop his skill enough to begin wax-sculpting later on. In 1961, he paid several visits to Man Jyoti's workshop\*\*, sometimes in search of advice, sometimes just to watch him work, but it was not until 1965 that he began sculpting professionally. He works with the assistance of his eldest son, Rajesh (b. 1956), a promising and already skilled\*\*\* young

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\* New.: "Kumhar" (kumbhakāra; Lévi, 1905, I:242, No. 19) or "kumhāl" (Peteck, 1958: 184) means potter. Rosser (1966: 86) gives the caste name "Kuma" and the personal surnames "Kumale" and "Prajapati". They were recognized as a caste by the Mallas in the mid-XIVth century (cf. Peteck, 1958: 182, No. 29) and are divided into four sub-divisions (Peteck, 1958: 184). Although they have been defined as an endogamous sub-section of the agricultural caste of the Jyapus (farmers; Fürer-Haimendorf, 1956: 21) rather than as a sub-caste, many of Rosser's Kuma informants claimed that "their particular group is simply a sub-division of Jyapus, with no explicit bars to intermarriage (the children simply following the sub-division of the father) and no barriers on commensality." (Fürer-Haimendorf, 1966: 84). Other informants argued a contrary opinion, but there is no central authority for promulgating a definite decision on such points.

\*\* Kalu visited Man Jyoti for seven consecutive evenings and then once a week for some time (a score of occasions) after that.

\*\*\* The proficiency of a sculptor in Nepal is assessed by his ability to model a wax image without the help of a "thāsā" (see ch. IV, pp. 206-7).

43. Hayagrīva. Nepal.  
1968. Copper. 8 in.  
(20.3 cm. ). Aniko  
Collection.



44. Hevajra. Nepal.  
1968. Fire-gilded  
copper. 1 ft. 3 in.  
(38 cm.). Aniko  
Collection

artist, one modeller, one caster, and three pupils, including his second eldest son, Maila (b. 1962). Kalu Kuma works alone on the first model of each statue he produces, and his assistants and apprentices begin to help only after its completion.

As is the case for most of the sculptors of Oku Bahal, Kalu Kuma has occasionally made a few images for private and public shrines, the bulk of his production being for the local art market. He does not use iconographic texts, but works mainly from pictures and drawings. Most of his iconographic sources were obtained from Sangha Ratna Sakya, one of the best chasers in Pātan before he turned to art-dealing. Sangha Ratna Sakya used to chase all Kalu Kuma's statues and to monopolize their sale. The images belonging to the period of close collaboration between the two artists (c. 1968-1977) mostly portray terrifying deities, sometimes of a rather obscure iconic type. Their pedestals tend to be stylistically uniform, with a plinth almost always chased.

The first image professionally produced by Kalu Kuma was a 5" Milarepa made in c. 1965 from another artist's "thāsā". In 1968, he made one of his more widely imitated statues, an 8" form of Hayagrīva, which the artist claims to have derived from a Tibetan thang-ka. Iconographically the type is strongly reminiscent of the winged form of Hayagrīva as illustrated by Pal (1969: 101, No. 69), but the artist assured me that he did not use Pal's book as an iconographic reference, a statement supported by the later date of publication of The Art of Tibet. An almost identical image to Kalu Kuma's Hayagrīva appears in Sotheby's catalogue



45. Hevajra (back).  
Nepal. 1968. Fire-  
-gilded copper. 1 ft.  
3 in. (38 cm.).  
Aniko Collection.



46. "Prachanda Beer".  
Nepal. 1971. Copper.  
8 in. (20.5 cm.).  
Aniko Collection.

"Vishnu" (3rd December, 1979: 63, No. 131). The date of Kalu Kuma's Hayagrīva is important because, following an incident in which a copy of his image was artificially aged and sold as an antique, Kalu Kuma, unlike other sculptors, has ever since made a point of casting each stand of his statues with the Nepalese Vikrama year marked inside, in order to 82 make his pieces easily identifiable. Following the same iconic type, Kalu Kuma made a 4" Hayagrīva, a version whose closest iconographic parallel is a 16" high ungilded copper image described and illustrated by Khandalevala (1950: 37 and 39), where the snake in the dishevelled hair is replaced by a vajra, not attributes are held in the two lower pairs of hands of the god, and the yum holds a vajra instead of a karttrkā. Both images are patinated to a rich brown, probably obtained by the application of wax to the copper surface (see ch. IV, p.230 ). By 1968, Kalu Kuma had evolved a personal style, modelling preferably, but not exclusively, yab-yum divinities. The most outstanding achievement of that period is represented by his 15" Hevajra, derived from a Tibetan 44. thang-ka. Its iconographic perfection contrasts with two 45 obscure and widely imitated\* terrifying deities, one made in

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\* For instance, a bad photographic reproduction on p.44 of Thakur Prasad Mainali's Contemporary Art and Artists of Nepal, Kathmandu, Nepal Assoc. of Fine Arts, 1975, illustrates a questionable "Megh Samvar" under the heading of Jog Man Sakya, a former member of N. A. F. A. Kalu Kuma had in fact already modelled that statue in 1968 using a Tibetan painted scroll as his source. The icon- 47 ography of this particular yi-dam, which I have not been able to trace anywhere, must be very rare and it is hard to believe that the late Jog Man Sakya came across the same iconographic source used by Kalu Kuma. On p. 61 of Sotheby's sale catalogue "Vishnu" is illustrated what is another work by Kalu Kuma, a yi-dam which





47. Vi-dam. Nepal. 1968. Copper. 9 in. (23.cm.). Aniko  
Collection.

c. 1968 in its 5" version and c. 1969-70 in its 8" version, the other only as an 8" piece, in c. 1970-1. To the period 1970-1 belongs a 5" yab-yum statuette of Candaroṣana, whose aspect in union with a consort is known to exist in Nepal (cf. Pal, 1978, II: No. 109). In 1971, Kalu Kuma created another masterpiece, alas often and badly imitated by other craftsmen, a 17" Garuḍa, from a picture. The king of birds and enemy of the nāgas is a familiar feature of Nepalese as well as Tibetan Buddhist literature\* and iconography. In Nepal Garuḍa is often portrayed as an anthropomorphic attendant or mount of Viṣṇu in the Hindu pantheon, but as an independent deity in the Newar Buddhist pantheon (cf. Pal, 1974, I: No. 107). It is possible that Kalu Kuma drew some inspiration from Pancha Jyoti Sakya's pair of garuḍas in the courtyard of the Rudra Varna Mahabihar (see above, p. 58) for example, for the shape and inclination of the wings and for the modelling of the feathers. However, the presence of horns in Kalu Kuma's Garuḍa is characteristically Tibetan.

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the Newars call "Prachanda Beer", and whose iconography again I am unable to trace, though the artist claims to have derived it from the picture of a Tibetan painted scroll. Against the advice of Brendon Lynch, Sotheby's expert in Tibetan and Himalayan art, the statue was catalogued as XVIIIth century, on the suggestion of a well-known scholar. The buyer returned the piece after the sale and Sotheby's accepted that it was a XXth century work. The inside of the statuette's base is inscribed with the Nepalese Vikrama year 2028 (1971 A.D.). I do not wish to question the competence of leading scholars in the field of Tibetan art: the episode is reported to stress the urgency of recognizing the existence of a XXth century Newar statuary tradition and of studying it scientifically in order to avoid similar mistakes in the future.

\* It is mentioned, for example, in the biography of the lama dPal-ldan-blo-gros (1467-1563; Snellgrove, 1967, I: 193).

48. Caṇḍaroṣaṇa.  
Nepal. 1970-1. Copper.  
5 in. (12.5 cm.).  
Aniko Collection.



49. Nāga. Detail of Garuḍa. Nepal. 1971. Copper. 17 in.  
(43.5 cm.). Aniko Collection.

Tucci (1935 , III/1: 163) maintains that the representation of a horned Garuḍa is very ancient in Tibet, as is demonstrated by a metal (probably brass) amulet found with other very ancient objects at Miang\*, and illustrated by him (*ibid.*: 164, fig. 4). As an example of a Buddhist Garuḍa, Tucci describes and illustrates a thang-ka of the Gu-ge school, found at Serkung and representing a horned Garuda of certainly Buddhist inspiration: a Garuḍa is there the central figure, surrounded by four smaller Garuḍas of different colours, and treading on the body of a nāga whose upper portion is in human form. The figures of all the Garuḍas in that thang-ka have very visible horns (Tucci, 1935, III/1: 164-5 and pl. LXXVII)\*\*. Thus Garuda, horned and standing on a nāga, is a common feature of the Tibetan pantheon\*\*\*, though it appears more often as an attendant deity, and sometimes with an 'ornamental' function, above the thrones of main deities: according to Tucci, the ornamental Garuda, without horns, is of Indian derivation (Tucci, 1935 , III/1: 164). The presence of horns, the treatment of the deity as a main figure, its treading on a nāga, besides any stylistic consideration, point to the fact that Kalu Kuma's Garuda is iconographically Tibetan\*\*\*\*.

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\* On this place, also Ma-yang, now Ma-dzong, see Tucci (1933 , II: 57). It is located on the Hindustan-Tibet trade route east of Tiak, in western Tibet.

\*\* Cf. also the four horned Garuḍas illustrated *ibid.*, pl. LXXXII.

\*\*\* Cf. also Grünwedel (1900: 188, No. 159), Gordon (1959: opp. p. 95) and Olschak (1973: 158-9, Nos. 184-6).

\*\*\*\* The local belief that the picture used by Kalu Kuma portrayed a "Burmese" or "Thai" Garuda only proves that the iconography followed by the sculptor is partially alien to the Newar pantheon: no one having seen a south-east Asian Garuda could possibly confuse it with a Tibetan Garuda.



50. Śamvara. Nepal.  
1972. Copper. 4½ in.  
(11.5 cm.). Aniko  
Collection.



51. Bhairava. Pātan.  
August 23-September 4,  
1978. Wax. 1 ft. 2 in.  
(35.5 cm.)



In that respect, the type of Garuḍa which is iconographically closest to Kalu Kuma's is represented by a 12½" x 9½" XIXth century Tibeto-Newar painting at the Royal Scottish Museum Reg. No. 1962. 453).

In 1972, Kalu Kuma fashioned a 4½" Sahaja-śamvara, an aspect of Śamvara\* frequently confused with Vajradhara by iconographers. That rare statuette not only shows Kalu Kuma's ease with miniature statuary, but also his ability to produce graceful and supple postures, belying a general impression that his images "tend to be somewhat stiff and static" (Alsop and Charlton, 1973: 47). It is more likely that the artist, by preferring ferocious and sometimes "static" postures to the graceful and hermaphrodite features of much Tibeto-Newar sculpture, has infused it with new blood, out of a personal aesthetic choice which is quite consistent with the traditional stylistic character of much Nepalese demonology. His skill in modelling terrifying deities is undoubtedly appreciated by his Newar customers.

On September 28, 1977, Kalu Kuma completed the wax of a 2' Vajrabhairava on which he had been working for seven weeks, constantly using the colour picture of a Newar paṭa of the same deity as an iconographic source. In the summer of 1978 he was requested to fashion a 1'2" image of Bhairava to replace the idol stolen\*\* a few years previously from the

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\* For this particular aspect of Śamvara, see, for example, Guenther (1972: opp. 100), Pal (1974: 37, fig. 12 and 1974; I: pl. 281) and Dagyab (1977, II: 55, Nos. 78-9).

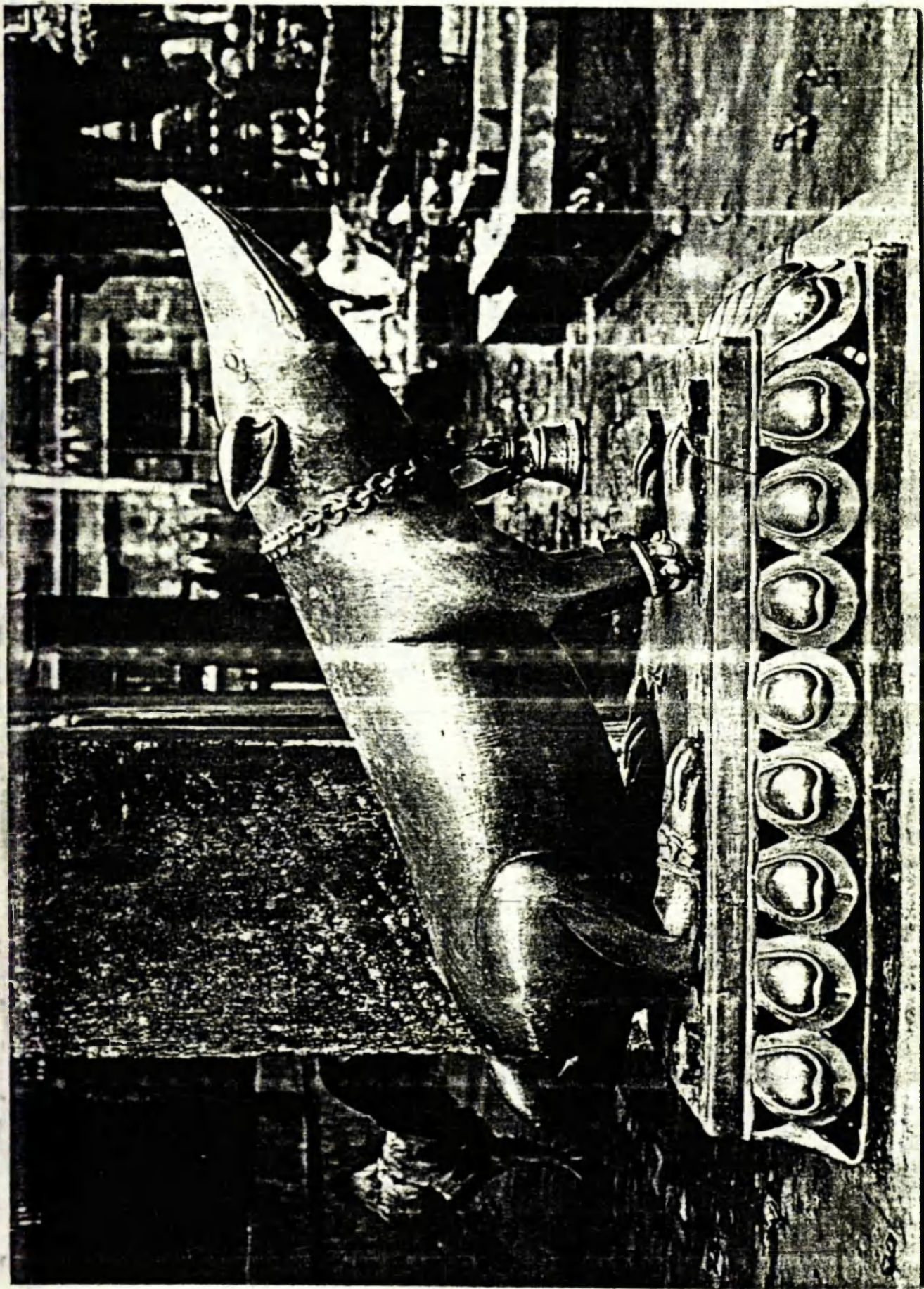
\*\* The original brass image was itself a modern replacement for a previous image stolen from Bāl Kumārī in 1971. As the temple lies in the outskirts of Pātan, it has often been vandalized (cf. above, p. 74), and the local people

left niche of the shrine of Bāl Kumārī, a temple which has suffered from repeated theft and armed robbery as much as from neglect. He completed its wax model between August 23 and September 4 of the same year\*. At the same time, he modelled two 3½" images of Rādhā and Rukmiṇī, to replace those two companions of Kṛṣṇa stolen from a temple at Sankhamul, north-east of Pātan.

A successful sculptor whose works have often been imitated but never equalled, Kalu Kuma has not lost his innate modesty and kindness or his Buddhist religious fervour. He participates actively in the religious and cultural life of Oku Bahal. For the purpose of the Indra festival on September 15, 1978, for example, he made wax dolls representing Yaśodharā, Devadatta, and other protagonists of Gautama's legendary life, for a small pageant which was staged for the benefit of the local people on the site of the large stone fountain opposite his new house at Thapat, in Pātan. Furthermore, Kalu Kuma still finds time for his traditional occupation as a farmer and, sometimes, potter. His rice and wheat fields yield enough crops to meet the requirements of his large family. In this respect, his attitude is very traditional: "there is no Gorkha who farms; there is no Newar who does not farm. Besides the rural class of the Jyāpus, all the artisans and traders established in town have

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seem to resent the presence of foreign visitors there. Kalu Kuma himself has been robbed of ancient statues of Vasudharā, Prajñāpāramitā, Avalokiteśvara, Kuvera, a stūpa and fifteen paintings from his own private shrine (āgama). Theft of antiques is a plague in the Nepal Valley. For precedents for the replacement of statues with copies in antiquity, see p. 54, n. 1).



52. Rat. Kathmandu. 1962. Fire-gilded brass. 1 ft. 4 in. (40.5 cm.).



a bit of ground which they exploit personally" (Lévi, 1905, I: 302).

Jagat Man Sakya (b. 1940)

The descendant of a family of pot-casters, Jagat Man Sakya began sculpting at the age of fourteen, acquiring his knowledge of metallurgy from his father but, as in the case of Bodhi Raj Sakya and other artists, receiving no formal training whatsoever. Jagat Man's artistic interests and approaches are varied and unconventional. In 1953, he started drawing with the help of a Tibetan iconographic text borrowed from Man Jyoti, from which he copied the iconometry; in 1956, he started studying the tablas, drums which he still plays as an amateur; during three journeys to India he was able to devote himself to his favourite pastime of visiting museums, an occasional source of information for his art; and between 1970 and 1973, he worked with a theatrical group in Pātan. In 1962, he was commissioned to fashion the gilded brass rat standing opposite Gaṇeśa's shrine in Maru Hiti, Kathmandu. There are many such rats portrayed with their deity all over the Nepal Valley, and quite a few in Pātan itself, like the superb pair on either side of Gaṇeśa's shrine in Ikhalaku, which gives its name to the lane in which it stands: Tichu Galli. Jagat Man's way of treating the subject, however, was more original and charming. His rat, wearing a bell around its neck, measures 2' 1" from nose to tail and 1' 4" from the tip of the nose to the bottom of the inscribed\* single-lotus

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\* The inscription bears the date of the Nepalese Vikrama year 2019 (1962 A.D.).



53. Dīpaṅkara. Nepal. c. 1970. Copper inlaid with silver.  
10 $\frac{1}{4}$  in. (26 cm.). Aniko Collection.



pedestal, which measures 1' 7" x 1' 2".

Around 1970, Jagat Man fashioned his 9 $\frac{1}{2}$ " copper Dīpaṅkara, 53 a Buddha of a previous aeon, who receives special veneration in Nepal "every five or twelve years" (Waldschmidt, 1967: 136, No. 40), when many of his images from temples and private shrines are shown to the public\*. Images of Dīpaṅkara are common in Nepal (cf. Snellgrove, 1978: 348, No. 273 and 349, No. 275). Jagat Man Sakya may have drawn the inspiration for the floral pattern of his figure's upper garment from the splendid Dīpaṅkara of the Pātan Museum illustrated by Waldschmidt (1969: fig. 40) and Macdonald and Stahl (1979: 38, fig. 25). The intricate chasing and silver inlay work were carried out by the famous Newar chaser Siddhi Raj Sakya (see above, p. 79), who used a carving technique of his own in order to obtain the rilievo effects in the Buddha's upper garment. A number of bad imitations of Jagat Man's Dīpaṅkara has appeared in the art trade without a stand. The double-lotus stand of the Aniko Collection Dīpaṅkara (No. 115) was especially made by Rajesh Kumar (see above, p. 86) in 1978, approximately eight years after the casting of the main figure.

In 1972, Man Jyoti agreed to model a 9' image of Gautama as a child for the Japanese monk Fuji Gūruji, on the condition of receiving Jagat Man's collaboration. Man Jyoti fashioned

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\* Cf. Snellgrove (1978: 344): "Accult. of the former Buddha Dīpaṅkara persists in Nepal, and of him there are many beautiful effigies", and Macdonald and Stahl (1979: 77): "During the festival known as Vanra Jatra, statues of Dīpaṅkara are carried through the streets in processions." The same authors (1979: 111) mention "twelve yearly outings of the Dīpaṅkara Buddhas" in Patan.

the face and Jagat Man the rest of the statue, now in Japan. The modelling of the wax took one month and was done with the help of a 3" Japanese statuette of the same subject. He then made a 7' Gautama child for a Japanese monastery near Pokhara, which has since been destroyed. After that, he worked with Nhuche Raj Sakya to restore the clay Śākyamuni in the main shrine of the Mahabuddha temple, Pātan. In 1973, for the anniversary of the Buddha's birthday (Baisak Purnima), he was commissioned to make the 2' 9" gilded brass Śākyamuni now in the shrine of a small garden in Darbar Square, Pātan. Jagat Man's workshop has been the object of Labriffe-Aris's study of the manufacture of statues with the lost-wax process in Nepal (cf. Labriffe, 1973: 187).

Santa Kumar Sakya (b. December 31, 1946)

One of the youngest sculptors of Oku Bahal, Santa Kumar Sakya (formerly Sangha Ratna Sakya) started modelling clay figures at the age of eight and later even made a self-portrait with the aid of a mirror. He shares Jagat Man Sakya's musical interests and participates in local festivals and ceremonies as a performer on the flute, harmonium and drums. A self-taught sculptor, he gained his knowledge by visiting workshops and watching other artists. In 1962, he broke with the family tradition of goldsmith work at which both his father and grandfather had been employed, and set up a workshop of his own. As do most of the major Newar sculptors, he receives a number of orders from Tibetans, who provide him with the necessary iconographic sources, as was



54. Varāha. Nepal. 1974. Fire-gilded copper. 11 in. (28 cm.).  
Collection E. Lo Bue.

the case with his 10" Golden Vaisravana (February, 1974) and 9½" Simhavaktrā dākinī (February 12 - March 13, 1975). As for most of the sculptors examined here, much of Santa Kumar's production is also exported to the West, where his statues appear now and then in antique shops and auction rooms. His financial success may be measured, for instance, by the fact that during the interval between our first interviews in the summer of 1977 and our last meeting in October, 1978, the number of his apprentices had gone up from two to six and the artist was having a new house built for his small family, consisting of a wife and one child. Like Sangha Ratna Sakya (see above, p. 87), Santa Kumar is a talented artist with commercial aspirations; he sometimes travels to India to sell his statues to local antique shops, and unlike all the other sculptors examined here, he does not concentrate exclusively on improving his skills. His production undoubtedly suffers from the compromise, although he must be ranked amongst the most promising sculptors of Nepal. One of his most representative pieces is an 11" Varāha, portraying that avatāra of Viṣṇu as a boar in the act of saving Bhūmī, the Earth, from the waters. The Earth, personified as a female with her two hands in namaskāra mudrā, has been raised by the god's snout and is supported on his upper arm. The image conforms to the description of the god in the Viṣṇudharmottarapurāṇa in at least one aspect, that he should support the Earth with the same arm which holds the conch. This incarnation of Viṣṇu is worshipped in the Nepal Valley, in a shrine at Dhum Vārāhī, 4 km. north-east of Kathmandu. Stylistically, however, Santa

Kumar's Varāha betrays later models and is somewhat reminiscent of a wooden mask of Vārāhī in a window frame of the Brāhmayanī sanctuary at Bhaktapur, as illustrated by Macdonald and Stahl (1979: 88, No. 69).

The youngest self-employed sculptor reviewed here, Bhuwan Sakya (b. May, 1950), a cousin of Santa Kumar, works alone at Nag Bahal and not only models, but also casts, chases, gilds, paints and inlays his statues with stones.

Babu Kaji Vajracharya (b. December, 1942 - January, 1943)

Nag Bahal is the second main artistic centre in Pātan and its greatest living sculptor is Babu Kaji Vajracharya. The son of a tailor\*, he began his apprenticeship as a sculptor in 1960 and received altogether about eight years of training from his famous uncles, Bodhi and Siddhi Raj Sakya, who were still living together. As he works alone, his output is small and his statues are hard to come by, but the quality of his workmanship is extremely fine and precise and most of his production is exported to Europe and Japan. The reason why Babu Kaji works only as much as is necessary to support his family of a wife and four children may also be connected with his chronically precarious state of health\*\*. At the

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\* Vajrācāryas following this profession are not a recent phenomenon. Oldfield's tailor was a Vajrācārya (Oldfield, 1974 repr., I:182). The British surgeon was in Nepal during the period 1850-63.

\*\* Babu Kaji's poor state of health may be due not only to the generally unhealthy living conditions in Pātan, but also to mercury-poisoning from the fire-gilding technique still used in the Kathmandu Valley (see Ch. IV, pp. 221-8). It would not be surprising if Man Jyoti Sakya's and Jagat Man Sakya's ailments, both of nervous *origin*, were due to the same cause.





55. Vasudharā. Nepal. 1975. Brass.  $6\frac{1}{2}$  in. (16.5 cm.).  
Victoria and Albert Museum (I.S.21.1980).

time of my interview, in 1977, his two sons were too young to help him, but his wife helps him in the clay-covering operation previous to casting. Babu Kaji's casting is done mostly in brass, but also in copper for the smaller and finer statuettes, which would otherwise be rather difficult to chase. It is one of this artist's habits to produce not too many images from the same model and to vary a main theme by combining different "thāsās" and changing the ornaments worn by his deities. Unlike Kalu Kuma (see above, p. 87), he usually adapts the style of the lotus pedestal to suit the particular subject he is fashioning.

One of the first pieces modelled by Babu Kaji Vajracharya was a 6½" standing two-armed Tārā in the form of Vasudharā 55 holding a kalāśa resting on a lotus flower in her left hand. Notwithstanding its uncommon iconography\*, this image can be traced to an identical aspect of Vasudharā, standing to the right of a central image of Amoghapāśa, in the shrine-room on the first floor of the western side in the Rudra Varna Mahabihar\*\*\* it is a 3' 6"\*\*\* brightly painted clay statue made in c. 1948 and stands opposite a similar image of Bhṛkūtī. Stylistically, however, Babu Kaji's icon follows an earlier model and many of its details have a striking resemblance to the 6¾" four-armed gilt copper Vasudharā of the Nasli and

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\* For an example of two-armed Vasudharā, see Lowry (1973: 26-7, No. 8). The artist maintains that his iconographic source was a similar statuette fashioned in c. 1957 by his uncle Siddhi Raj Sakya. Newars sometimes regard Vaudharā as a form of Tārā.

\*\* Including its 4" aura.

\*\*\* See ch. I, pp. 41-2.

56. Lakṣmī Nārāyaṇa.  
Nepal. 1960s. Copper.  
10½ in. (26.5 cm.).  
Aniko Collection.



57. Lakṣmī Nārāyaṇa (detail). Nepal. 1960s. Copper. 10½  
in. (26.5 cm.). Aniko Collection.

Alice Heeramaneck Collection (Rosenfield, Beach, et al., 1967: 82, No. 87). The brass version\* of Babu Kaji's Vasudhārā is particularly interesting, for the brittleness of the material is a challenge to the craftsmanship of the chasers, who certainly prefer copper to the harder leaded-alloy of cast brass images in Nepal. The slightly disproportionate elongation of the divinity's arm enhances rather than disturbs her graceful movement\*\*. The arms themselves are a good example of how important the contribution of a chaser is to the final appearance of a metal image (cf. above, p. 79 ). In the particular case of the statuette illustrated opposite 55 (cast in 1975 and dated N.S. 1096), the large armlets worn by the goddess were not part of the original casting. Purna Man Sakya (see above, p. 79) hammered them entirely out of the naked arms, in order to make the wrists more slender, during the week of intensive work which it took him to chase this statuette. Notwithstanding his high degree of skill, he did not feel confident enough to chase the face of the goddess: a slip of the chisel on the hard surface of brass could prove fatal to the final appearance of the statue. Thus

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\* The ungilded copper version once belonging to the Aniko Collection (No. 147), like all Babu Kaji's copper images reviewed here, was finely chased by Rudra Bahadur Sakya.

\*\* This kind of apparent lack of proportions is by no means characteristic of late Newar statuary only. For an early Newar stone image of Avalokiteśvara with short legs and arms which "appear elongated by comparison", see Snellgrove (1978: 340, No. 263).



58. Vajrapāṇi. Nepal.  
1960s. Copper. 10½ in.  
(26.5 cm.). Aniko  
Collection.



59. Vajrapāṇi (detail).  
Nepal. 1960s. Copper.  
10½ in. (26.5 cm.).  
Aniko Collection.



the face was chased in the summer of 1978 by another young, but very skilled artisan, Manghal Narsingh Sakya (b. 1952), who started learning his trade in c. 1968, when working in a workshop owned by a Rana.

During the same period, Babu Kaji also fashioned a more complicated deity belonging to the Vaiṣṇava pantheon of Nepal, a 10½" Vāsudeva-Kamalajā, which was subsequently copied by other artisans. Pal (1970: 137 and fig. 108) states that the earliest known example of that conjoint form of Viṣṇu and Lakṣmī is a XIIIth century stone sculpture in the Darbar Square at Kathmandu. However, Babu Kaji maintains that he derived the iconography of his statue from one of the stone images, probably also belonging to the Malla period, to be found in some of the fountains of the Valley of Kathmandu. The slender hermaphrodite elegance of Babu Kaji's Vāsudeva-Kamalajā suggests a late iconographic source. 56 57

Later on, Babu Kaji was to model what must be regarded as an achievement by any standards of craftsmanship, a 10½" Vajrapāṇi which compares very favourably with the British Museum's XVth century larger piece illustrated and described by Snellgrove (1978: 345, No. 269), Pal (1974, I: No. 213), and Barrett (1957: 93, No. 7, and 95)\*. 58 59

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\* The attempt to distinguish Vajrasattva from Vajrapāṇi by iconographic distinctions of any kind appears to be unsatisfactory. Snellgrove himself, rather than differentiating Vajrapāṇi from Vajrasattva, repeatedly hints at the "impossibility of making any final distinction between Vajradhara (Holder of the Vajra) and Vajrasattva (Vajra-Being), for both represent Buddhahood in its adamant aspect." (Snellgrove, 1957: 244; cf. also *ibid.*: 74; 1959: 210; and Snellgrove and Skorupski, 1977: 12). By comparing the inscriptions of the peaceful and wrathful aspects of Vajrapāṇi in the Tibetan xylographs reproduced by Olschak (1973: 135, No. 90; 149, No. 146; and 155, Nos. 169-71), it



60. Vajrapāṇi (detail). Nepal. 1960s. Copper. 10½ in. (26.5 cm.). Aniko Collection.

The statuette bears a seated Śākyamuni in bhūmiśparśa mudrā on its crown. It took Rudra Bahadur Sakya more than two weeks to chase this masterpiece.

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Finally, I should mention a later (c. 1968) work by the artist, a seated 7½" Vajradhara holding his hands in vajra-hūṃkāra mudrā, with bell and vajra resting on lotus flowers

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would seem that the distinctions between Vajrasattva and Vajrapāṇi or Vajradhara are not quite justified and that Snellgrove is correct in calling Vajrapāṇi the peaceful deity holding a vajra as his main symbol. Vajrasattva as an individual divinity is absent from the three hundred icons of the Tibetan pantheon mentioned above and Olschak's justification for that is awkward (Olschak, 1973: 126). In view of these considerations, it may be suggested that Vajrasattva is just an epithet, which may equally apply to the bodhisattva Vajrapāṇi, to the jina Akṣobhya (Snellgrove, 1957: 70, n. a, and ff.; cf. pp. 230-1, No. 2), to the buddha/bodhisattva Samantabhadra (Olschak, 1973: 148), all blue, or to the adi-buddha Vajradhara (white or golden). Vajrapāṇi is sometimes confused with Guru Seng-ge-sgra-sgrogs, one of the eight manifestations of Padma-sambhava, as illustrated by Olschak (1973: 31). I have since discussed the problem with Snellgrove and he has drawn my attention to the fundamental tantra, the Sarva-tathāgata-tattva-saṃgraha, where Vajrapāṇi predominates, both as a tranquil and fierce form. He is often referred to as Vajradhara (which means effectively the same as Vajrapāṇi) while he is also sometimes called to as Vajrasattva, which is his spell or the essence of his being. Thus they are all essentially the same divinity. In later tradition, presumably Indian as well as Tibetan, Vajradhara, seated cross-legged, holding vajra and bell in his crossed hands, may certainly be distinguished iconographically from Vajrapāṇi, and as such he appears as the supreme divinity of the Tibetan bKa'-brgyud-pa order. No such distinct iconographic form can be easily posited for Vajrasattva. For the evolution of Vajrapāṇi Snellgrove refers me to the references throughout the Image of the Buddha, to be found through the index. On the popularity of Vajrapāṇi in Nepal, see Snellgrove (1957: 116).



61. Vajradhara. Nepal. 1968. Copper. 7½ in. (18.5 cm.).  
Aniko Collection.

at each shoulder. Babu Kaji's iconic type can be traced to the form of Vajradhara illustrated by Gordon (1959: opp. 50), though its double-lotus stand with rather wide petals is reminiscent of another similar Vajradhara, illustrated and described by Pal (1974, I: No. 297) as "Vajrasattva".

O-rgyan Rin-po-che (b. 1919) and Tshul-khrims-dvangs-pa (b. 1932)

Whereas XXth century Newar sculptors seem to be equally at ease modelling wax or clay, contemporary Tibetan and Ladakhi sculptors appear to prefer the latter material. The sprul-sku O-rgyan Rin-po-che from Nang-chen (Khams), co-founder of the bKa'-rNying Shes-grub Gling at Bodhnāth (1973), modelled the deities kept in the two outside chapels in the entrance courtyard of that large monastery: in the right chapel, the central 6' image of mGon-po Ber-nag-can, the 3' statue of dPal-ldan lHa-mo riding a white lion on its left, and the 3' torsos of E-ka-dza-ti and Tshe-ring-ma on its right; in the left chapel, the central 6' image of mGon-po Phyag-bzhi-pa as well as the 3' statue of the wrathful "king" Pe-har riding a typically Tibetan elephant with tusks protruding from the mouth rather than the cheeks, and the torsos of lHa-mo bDud-gsod-ma and the crow-faced Bya-ro-gdong-can, both also 3' high.

In the assembly hall of the same monastery, the central image of Sha-kya-thub-pa, 11' high and made of gold-painted clay, stands against a background of intricate foliage pattern of the same material surrounded by Samantabhadra, Maitreya and the seven Mānuśi Buddhas, all sitting on lotus flowers belonging to the same background. This work, along with the



10' clay image of Padmasambhava located in the right niche of the same shrine and similarly surrounded by Amitābha, Śākyamuni and seven hierarchs of the rNying-ma lineage, was modelled in 1975 by the Tibetan sculptor Tshul-khrims-dvangs-pa. The following year, the same artist fashioned the statues in the assembly hall of the Karmaraj monastery at Svayambhūnāth and the 6' 6" Rang-byung-rig -pa'i-rdo-rje, the sixteenth Karma-pa (b. 1924), in the right niche of the shrine in the entrance to that monastery. The 2' 6" Zhva-dmar Gar-dbang-chos-kyi-dbang-phyug\*, (1584-1630), in the niche surmounting the present Karma-pa's, and the 2' 6" Dus-gsum-mkhyen-pa, the first Karma-pa (1110-1193), in the niche surmounting Man Jyoti's Padmasambhava,\*\* were also modelled by Tshul-khrims who, again, sculpted several clay images in the assembly hall of the same monastery. In 1977, he was living in Bir, Kangra, but when I tried to find him there, in September 1978, I was told that he had left for Ladakh: travelling is unavoidable for artists fashioning large clay images (cf. above, p. 67), for their weight and fragility do not allow for transportation.

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\* This Zhva-dmar, the sixth incarnation of his lineage, made a small self-portrait "in the year 1630, shortly before his passing". It is preserved in the Rumtek monastery (built 1964-68) in Sikkim (Douglas and White, 1976: 148).

\*\* See above, pp. 65-6.

62. Avalokiteśvara.  
Hemis Monastery.  
1940s. Painted clay.  
3 ft. (91.5 cm.).



63. Mañjuśrī. Hemis  
Monastery. 1940s.  
Painted clay. 1 ft.  
9 in. (53.5 cm.).

Tshe-dbang-rig-'dzin (c. 1890-c. 1970/1875-c. 1968\*) and  
Ngag-dbang-tshe-ring (b. 1933)

Ladakh is the country of clay-modelling par excellence.  
 The lack of an outstanding metal statuary tradition may have  
 contributed to bringing the art of clay modelling to a high  
 degree of skill. The master of the present generation of  
 Ladakhi sculptors appears to be the lama Tshe-dbang-rig-'dzin  
 who was also renowned as a painter\*\*. Born at Lingshot, in  
 Zangs-dkar, he married in Kalatse. Pallis (1942: 316) mentions  
 him in Peaks and Lamas, in the chapter devoted to the painter  
 dKon-mchog-rgyal-mtshan. Both artists worked together around  
 1930-31, painting the murals of the temples in the monastery  
 at Phyang, where Pallis met dKon-mchog. Images by Rig-'dzin  
 are to be found in the gzim-chung Pad-ma 'Od-gling, in the  
 private shrine-room of Hemis' head lama, Thugs-brtse Rin-po-  
 -che, who is still held by the Chinese. A 3' image of eleven-  
 -headed Avalokiteśvara made by Rig-'dzin for the central 62  
 niche of that shrine is illustrated in the Artou guide to  
 Ladakh (Jaccard and Vittoz, 1976: 30). Rig-'dzin also fashioned  
 and painted the 1' 9" Mañjuśrī in the left niche and the 2' 63  
 Vajrapāṇi in the right niche of the same altar. The triad was 64

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\* According to bSod-nams-skal-bzang (see below), Rig-'dzin  
 died in c. 1970 at the age of c. 80. According to the  
 sculptor Ngag-dbang-tshe-ring, he died in 1968 at the age of  
 93. Rig-'dzin undoubtedly lived to an old age, as I could  
 see myself from a picture of him taken in the nineteen-  
 -sixties.

\*\* Painting and clay sculpture are more intimately connected  
 than painting and metal statuary, for all clay images,  
 unlike metal images, must be completely painted.



64. Vajrapāṇi. Hemis  
Monastery. 1940s.  
Painted clay. 2 ft.  
(61 cm.).



65. Śākyamuni, Śāriputra and Maudgalyāyana. c. 1938. Trak-thog.  
Painted clay. 3 ft. 6 in. (106.5 cm.) and 3 ft. 1 in. (94 cm.).

apparently fashioned in the late nineteen-thirties to early forties. To that period belongs another triad of his, that of a 3' 6" Śākyamuni flanked by Śāriputra and Maudgalyāyana, both 3' 1" high, in the shrine of the bKa'-gyur assembly-hall 65 of Trak-thog monastery. Rig-'dzin also modelled the central 1' 10" image of Amitābha with an 8" Vajrapāṇi on its left, and a 1' 7" Ṣaḍakṣarī on its right in the Dung-dkar gYas-'khyil shrine-room of the same monastery. A fine painted clay mask made 66 by Rig-'dzin was shown to me on July 29, 1978, in the entrance to that shrine-room, by the foremost of his living pupils, the sculptor Ngag-dbang-tshe-ring, from Thea. Ngag-dbang himself 67 was then making two masks, part of a set for the Trak-thog monastery. Works by him are to be found in various parts of Ladakh. In 1977, he modelled the 6' image of Yamāntaka in the right corner of the new assembly-hall of Spituk monastery. Another fine 5' 2" image of the same deity, made in May 1978, 68 stands in the right corner of the assembly-hall in the monastery of Saphud. Other pupils of Rig-'dzin are sKar-ma-tshe-ring, a contemporary of Ngag-dbang, from Himis Shukpa, and bSod-nams-skal-bzang (b. 1943)\*, who teaches sculpture at the Handicrafts Centre in Leh. bSod-nams was born in Wangla, not far from Mulbek, but his father and grandfather, both clay-modellers, came from the same village as Rig-'dzin, Lingshot. Rig-'dzin was in fact a relative of bSod-nams's and taught him both modelling and painting for seven years. In 1978, bSod-nams was awarded one of the ten national awards for master-craftsmen by the Indian Government.

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\* The artist gave his age as 35 at the time of our interview, on July 16, 1978.





66. Mask. Trak-thog Monastery. 1940s. Painted clay.



67. Ngag-dbang-tshe-ring modelling a mask near the lantern on the roof of the main assembly-hall of the Trak-thog Monastery, on July 29, 1978.

Chapter IIIMETALS: A HISTORICAL SURVEY BASED ON METALLURGICAL ANALYSES  
OF PARTICULAR STATUES AND SUPPORTING LITERARY EVIDENCEThe problem of "bronze".

When speaking of Tibetan and Himalayan metal images, the term most often encountered to define both the statue and its alloy is "bronze". According to dictionary definitions, bronze is an alloy of copper and tin, or a work of art made of it. Notwithstanding the presence of Chinese bronze cauldrons which were sent to Tibet as gifts in various ages, and even of a European bronze bell in Lhasa (Richardson, 1977: 173, No. 14), evidence seems to suggest that Tibetan and Himalayan metal statues were hardly ever cast in bronze, and that its use was mainly confined to the casting of ritual and domestic items, sometimes carried out in loco by Chinese craftsmen\*. Unfortunately, the translation of Tibetan metallurgical terms in various dictionaries and other works has never been substantiated by any kind of metallographic evidence. The art historians' traditional fondness for using the term "bronze" to designate any statuary of copper alloy irrespective of the presence or absence of tin probably contributed, for example, to the false assumption that the horses of San Marco were cast in bronze. Metallurgical analysis revealed that in fact

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\* Cf. the VIIIth century bell of the temple of Khra-'brug (Yarlung Valley), whose inscription specifies that the man who cast the bell was the abbot, the Chinese master Rin-chen (Tucci, 1950: 70-1; cf. also fig. 5 for another bell of Chinese shape).





68. Yamāntaka. Saphud Monastery. May 1978. Painted clay. 5 ft.  
2 in. (1 m. 57.5 cm.)

they were cast in almost pure copper\*. Their case is by no unique: I could mention Lorenzo Ghiberti's "Gate of Paradise" (completed in 1452: Cu 93.7%, Sn 2.2%, Pb 1.3%, Zn 1.8%; cf. Bearzi, from Leoni, 1977: 196) or Benvenuto Cellini's Perseus (completed in 1554: Cu 95.37%, Sn 2.29%, Pb 1.51%), which are both thought of as "bronze" works of art.

The etymology of the word "bronze" is uncertain, and though (aes) brundusium (Brindisi copper alloy) has been suggested, it is "only from the Renaissance (that) the term bronzo was used in Italy to denote copper alloys specifically alloyed with tin"\*\*. The question of the use of this word is not just a pedantic quibble. Craddock has noticed that "from the time of King James Bible of 1611 in which all copper alloys are called 'brass' irrespective of composition, the early development and use of brass has been confused, and learned books, both ancient and modern have often tended to increase rather

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\* Cf. Leoni (1977: 205):

|                   | %Cu   | %Sn  | %Pb  | %Sb         | %Ag | %Fe |
|-------------------|-------|------|------|-------------|-----|-----|
| Horse A           |       |      |      |             |     |     |
| Head - Sample 1   | 98.12 | 0.77 | 0.55 |             |     |     |
| Sample 2          | 96.67 | 1.31 | 1.16 |             |     |     |
| Trunk - Sample 3  | 97.65 | 0.95 | 0.98 |             |     |     |
| Sample 4          | 96.95 | 1.22 | 1.14 | less than 1 |     |     |
| Collar - Sample 5 | 98.95 | 0.39 | 0.11 |             |     |     |
| Horse B           |       |      |      |             |     |     |
| Trunk             | 97.22 | 1.22 | 1.04 |             |     |     |

\*\* Craddock (1978: 1). The term, however, was already used in a treatise of alchemy which may be dated between the IXth and XIth centuries according to the Grande Dizionario della Lingua Italiana, Torino, U. T. E. T., vol. III, and Dizionario Etimologico Italiano, which records also the Mediaeval Latin terms brundum (1313, Treviso); brondi (1339, Verona); bronzum (1335, Bologna); brunzo and bronzo (1349, 1447, Roma), etc. For this information I am indebted to Dr. Alberto Scaglia.

than decrease this confusion!" . In fact, nowadays, in our ultra-scientific age, we somehow do the opposite of what the Elizabethans did, calling "bronze" what is in fact brass. This is probably the result of centuries of dictatorship of classicism, whereby metal statuary, to be worthy of any consideration, has to be made of the same material which was used in the Greek, Etruscan and Roman civilizations. The study of Eastern metal statuary has suffered from the same prejudice, also in view of the fact that bronze found an early and intense use in China. Much northern Indian metal statuary from as early as the VIIth century A.D. was, however, actually cast in brass (Cf. Werner, 1972: 138), and a few examples of copper statuary from even earlier dates were found at Taxila \* (Marshall, 1951, I: 208-9). The same applies to Tibetan metal statuary, and Béguin has mentioned how in that respect the word "bronze" is of practical use but not correct (Béguin et al., 1977: 61).

#### Early brass and copper statuary in northern India

A detailed analysis of the materials used in northern Indian metal statuary is not within the scope of this study. Although it would not be correct to try to diminish or deny the widespread use of bronze as a statuary metal in India, it is necessary to understand and underline the importance of the

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\* See Marshall (1951, I: 208-9; II: 605-6; III pls. 185-6, Nos. 419-23, 426 and 429). These images, two of which preserving a "pure Indian character", were all "solid-cast in open or piece-moulds", except for No. 420, "which is of thin repoussé metal". Most of them were excavated from stratum II at Sirkap and correspond to the later Śaka and Parthian period (90 B. C. - c. 60 A. D. See Marshall, 1951, I: 118).



role played by brass in traditional northern Indian sculpture. Sometimes zinc and tin were used together with copper to form a brass-bronze alloy, but this may not by any means be regarded as aṣṭa-dhātu, a traditional northern Indian statuary alloy made of eight metals. Western and Indian scholars have sometimes attempted to make that ideal alloy coincide with actual statuary metal, but their speculations were never supported by metallurgical analysis. Referring to an "assay which was attempted to determine the composition of the metal of a Vishnu image from Rangpur", Spooner held that Mr. Hooper's report seemed "clearly to indicate that the actual composition" of his sampling "consisted of the so-called aṣṭa-dhātu or eight metals" (Spooner, 1911-12: 157), although he could not identify even traces of two of its necessary components: gold and silver. The traces of antimony, zinc and iron found by Hooper in his assay are percentually insignificant and may be regarded as accidental\*: thus we are left with only three metals, copper, lead and tin, far from the eight components required for the aṣṭa-dhātu. However, the hypothesis

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\* Antimony finds its use in lead alloys, as a hardening agent, and in tin alloys, to form "white metal" (cf. p. 177, n. 1). Spooner's naive argument that "the merest atom of these metals, if added to the blend, is enough to constitute the theoretical composition desired" does not excuse his extremely forced conclusion that "the absence of manifest traces of gold and silver does not, therefore, exclude the possibility, still less destroys the probability, that in intention the bronze was of the aṣṭa-dhātu type" (Spooner, 1911-12: 157). Obviously, Spooner believed that evidence may be gathered from intentions rather than facts. It is possible that aṣṭa-dhātu originally just stood for the "eight elements" used for Indian statuary alloys, whether alone or in various combinations: "Metals as enumerated in the Vāstu-texts (cf. *Śilpa-ratna* - Pr. Lakṣ, p. 11) are eight-fold and they are designated as 'Aṣṭalohamaya'." (Shukla, 1958, II: 109). The use of all the eight metals to form one alloy appears to have been neither intentional nor actual, though, at some stage, it may have been proposed as an ideal by subsequent mythical literature on the subject.

that ancient northern Indian statuary metal may be actually made of the mythical aṣṭa-dhātu has become accepted as truth by many art historians since. Some, like Majumdar and Kramrisch have been rather cautious and merely state that in ancient Indian statuary alloys are "supposed to be" (Majumdar, 1926: 426) or "known as made of" (Kramrisch, 1964: 12) aṣṭa-dhātu. Others, like Saraswati (1962: 28) have not been disturbed by the apparent contradiction that, for example, gold and silver are absent from the alloy, though they may have realized that copper was its essential ingredient. On the basis of Spooner's "evidence", Bhattasali (1972: XX) coined the designation "octo-alloy", mentioning that, from a study of twelve images of the Dacca Museum, sometimes a "coppery appearance predominated in the alloy", but recognized that another was made of pure copper. Sahai (1977?: 233) accepted Bhattasali's coinage and reviewed a score of analyses of northern Indian metal images, without realizing perhaps that the alloys of the images taken into consideration by him never contained more than five elements in excess of 1% in each case. Using Spooner's and Saraswati's postulates as evidence, he also accepted their unsupported conclusions on the nature of the aṣṭa-dhātu in full. Bhattacharya (1979: 146) follows Spooner in the idea that, for the sake of proving the existence of the octo-alloy, six is equal to eight (cf. p. 109, n. 1)! The aṣṭa-dhātu is not the only product of the Indian taste for magical numbers: the navaloha, sattaloha and panchaloha (Majumdar, 1926: 462) are other alloys whose myth has disintegrated thanks to the hundreds of analyses carried out by

Werner (1972: 184-91, tables 4.1-6.1).

Whereas the traditional Indian psychological attitude of trying to fit a fact to an ideal at the expense of the truth (but to the advantage of the myth) has blinded the above mentioned scholars, western study of northern Indian metal statuary has suffered from another prejudice. Goetz, for example, not only accepted the notion of aṣṭa-dhātu as a fact, but even equated it to brass (Goetz, 1969: 139), though he was somewhat embarrassed by the problem, discussed above (pp. 106-108 ), of calling brass by its real name\*. That kind of hesitation is reflected in the use of such expressions as "brass type of bronze" and in the circumstance that sometimes art historians dealing with northern Indian statuary refer to one and the same object as "bronze" in the text and "brass" in the relevant caption (cf., for example, Gorakshkar, 1971) or vice versa (cf., for example, Goetz, 1969: 79 and 86 and plate XXVI) or even in the same text. Unfortunately, even such an eminent archaeologist as Marshall admits *using* the word "bronze" to include alloys other than copper and tin: "My reason for using the word in this more extended sense is that, without a chemical analysis of each article, it is not possible to determine the precise nature of its alloy, and it is more convenient, therefore, and likely to be productive of

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\* Such embarrassment is expressed by Goetz's use of the term "brass" in inverted commas and by his consideration that the brass frame from Divsar (see below, p. 132, n. 3) was made in its "cheap metal" by a cynical king who deceived his pious people with the affectation of his own conversion, while in fact the temple's property had "found its way into the royal pockets" (Goetz, 1969: 85). Statements like this should be supported by a detailed study of the economic history of the area during the period taken into consideration. There is no evidence that brass ever regarded as an inferior or "cheap metal" in the northern Indian statuary tradition.

less error, if all these alloys are classed together as bronze" (Marshall, 1951: 564). It may be suggested that, in a scientific context, the term "copper alloy", though less elegant, would have been productive of less error than the term "bronze".

Werner's analyses of "northern Indian" images are rather misleading, for most of the objects he takes into consideration are described by him as being from Nepal or other Himalayan areas: however, having analyzed one brass statuette from Nalanda and a dozen objects cast in brass (with the exception of three cymbals) from Rajasthan to Bengal, he concluded that the eastern-most point of the development of brass technology "seems to have been Nālandā". How do Werner's results stand up to other metallurgical evidence? Lal (1956: 55-6) records altogether nineteen chemical analyses of Nalanda "bronzes", although it is not clear, either from his table or from the text, whether his nineteen samples come from nineteen different statues. However, what is clear from his discussion and from his table is that nine samples turned out to be bronze, five brass\*, four copper and one brass-bronze. (Lal, 1956: 57) concluded that "The data recorded here show that both bronze and brass were used for casting images", somehow forgetting to include in his final considerations the "four copper specimens" (Lal, 1956: 55) which contained more than 91%

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\* The figure of the zinc percentage of sample No. 9 is incorrect and its alloy is referred to as brass in the text, where another brass sample is included, too (Lal, 1956: 55).

copper, and other elements in amounts not exceeding 2.61%. Sahai reports and repeats Lal's data and considerations, to which he adds four more analyses of objects from Chausa, Nalanda and Kurkihar, one being bronze\* and the other three leaded brass-bronze alloys, that is, alloys with significant amounts of tin, zinc and lead, and copper not exceeding 90%. He also mentions that chemical analysis of five of the seven standing images of the Buddha discovered at Phopnar (Madhya Pradesh) in 1964 revealed the presence of "copper on proportion varying between 61.7% and 70.2% and zinc varying between 21.4% and 30.3%, tin being present only in traces" and accepts that "The images from Phopnar Kala have thus been cast out of brass and not bronze." (Sahai, 1977?: 236). However, on the basis of all the results taken into consideration by him, that is, a total of ten bronze, ten brass, four copper and four brass-bronze specimens, Sahai unreasonably concludes that "in a great majority of cases, the images were cast out of bronze" (Sahai, 1977?: 236). In fact, if we add to Sahai's data the analysis of the brass image from Nalanda studied by Werner (1972: 139, No. 108 and 211, fig. 30) and those of the two Pala images reported below (p. 121, Nos. 43 and 46), we reach a total of seventeen brass and copper samples against ten of bronze, leaving aside the four in which both tin and zinc are present in the copper alloy in significant amounts.

On the basis of the above results, we may indeed conclude that Pala and Sena statuary was cast not just in bronze, but

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\* That particular specimen was analyzed by Jayaswal (1934:71).



very often in brass and unalloyed copper, and, in the absence of further analysis, we may well accept Werner's suggestion that brass was used in northern Indian statuary as far as Nalanda in the east, to which we may add as far as East Nimar, in south-west Madhya Pradesh. Furthermore, Werner's own analyses of northern Indian brass objects allowed him to conclude that "the zinc content increases from the 15th to the 17th century and beyond that to the 20th century" (Werner, 1972: 141).

The tables reporting the chemical analysis of objects unearthed at Taxila reveal the use of pure copper, bronze, brass, copper-nickel alloy and solder (Marshall, 1951, II: 567-9, tables I-IV). From those results it appears that brass was manufactured in India at least from the IIInd century B.C.: "The objects of brass discovered at Taxila are especially interesting, as they represent the earliest specimens of this copper alloy so far found in India" (Ullah, in Marshall, 1951, II: 570)\*. Literary evidence of the manufacture of brass in India may go back to the IVth century B.C., for it is mentioned in Kautilya's Arthasāstra (Ullah, in Marshall, 1951, II: 570-1). According to Vogel (1908: 108), the inscribed brass statuette of the Buddha found at Fatehpur (Kangra, and now in the Lahore Museum, was cast in the VIth century. It measures

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\* It has been suggested that one of the brass items reported ibid. on table IV (No. 28) and attributed to the IIIrd-IIInd centuries B.C. "may be Greek rather than Indian" (Marshall, 1951, II: 199). However, the results of the analysis of item No. 29, a IIInd century B.C. bangle, allowed Marshall to state that "malleable brass (...) now makes its first appearance in India" (Marshall, 1951, I: 107). In the light of the latter statement, it would be interesting to analyze the metallurgical composition of the famous 11.25 cm. "bronze dancing girl" from Mohenjo-daro at the National Museum of India in New Delhi.

30 x 13.5 cm. and is inlaid with silver and copper. Brass continued to be used consistently in northern Indian statuary also in the casting of large objects, such as the Divsar frame (see below, p. 132, n. 3). The majority of the western and north-western objects analyzed by Werner was made of brass and the remaining items of copper. No bronze appears in his data (Werner, 1972: 190-1, table 61)\*, though the picture changes for southern India, where brass tends to be replaced by copper and, sometimes, by bronze (Werner, 1972: 186-9, table 5.1)\*\*.

Pure copper has been used to manufacture objects in India since prehistoric times, at Harappa (cf., for example, the representative analysis reported by Piggott, 1952 repr.: 197), down to Taxila (cf. Marshall, 1951, II: 567, table 1), and to this day. Copper ores are available in India and Marshall rejects Warmington's conclusion that in the 1st century A.D. India was entirely dependent on the West for copper: "it is quite impossible that the large quantities used under Parthian rule at Taxila could have been imported by sea." (Marshall, 1951, II: 565-6, n. 1). Marshall (1951, II: 564), however, points out that clear evidence of the scarcity of copper is forthcoming at Taxila and quotes the Periplus of the Erythraean Sea and Pliny as mentioning that India imported copper, tin, lead and bronze from the West. Even for a later period, Gopal (1965: 152) suggests that copper, as well as lead, was "in the list

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\* The Tibetan artist and scholar Padma dkar-po (1526-1592) mentions white and red li along with brass as being used in northern Indian statuary, of which Newar sculpture is regarded as a superior variation (Padma dkar-po, 1973, I: 300, ll. 1-3). He also mentions a light-coloured brass obtained by mixing brass with white li.

\*\* Examples of unalloyed copper embossed statuary from southern India are illustrated by Aravamuthan (1931: Nos. 21 and 24).

of India's imports from the west". Gopal's study is mostly concerned with northern India's economic history from the VIIIth to the XIIth centuries. From Marco Polo we know that "much gold and silver and copper" (Ponchirolì, ed., 1979: 197) was imported in Tana, or Kana (Konkan, now corresponding to districts in Maharashtra and Goa). According to another version, it was Gujarat, rather than Maharashtra, which imported "gold, silver, copper, and tutty, into its port of Cambaet (Cambay; cf. Masefield, 1936: 386). Gopal (1965: 156) refers to the imports of gold, silver and copper to the kingdom of Cambay, whose description follows that of Konkan in the "ottimo" abridged Tuscan version of Milione. In any case, it is clear that the coastal districts around the Gulf of Cambay imported metals which included copper and zinc oxide, the latter presumably from Iran. The import of copper and silver on the western Indian coast is confirmed by Marco Polo in his chapter on the kingdom of Malabar (Ponchirolì, ed., 1979: 195): "Traders bring here copper, silken and golden brocades, and bring silver, cloves and lavender (?), because they do not have them", from Manji (southern China; cf. Masefield, 1936: 382-3).

One remarkable example of post-Gupta copper\* statuary is the 7' 6" standing Buddha discovered in 1864 in the ruins of

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\* Cf. Coomaraswamy (1927: 240, pl. XLI, No. 160). Harle (1974: 8) acknowledges that "the great Sultanganj Buddha is generally thought to be a later work" which can no longer "be unquestionably assigned to the Gupta period". Thus the statue may be tentatively assigned to the reign of Harṣa (590-647 A.D.). It is likely that a work of that size would require some form of royal patronage, or at least political stability. In the latter part of his reign, Harṣa fell increasingly under the influence of Buddhism. If the Sultanganj Buddha is

an old Buddhist monastery at Sultanganj (Bhagalpur District, Bihar). Lumps of copper ore, a fragment of a crucible and remains of four other copper images (Mitra, 1864: 367-8, Nos. 12-14, 16 and 18) besides other copper items were found on the same site. It is possible that the monastery had casting facilities on its premises. The Buddha weighs more than a ton, and stands now in the Birmingham City Museum (Reg. No. 1116-85). The Chinese pilgrim Hiuen Tsiang left a description of a colossal pure copper statue of the Buddha, 80' in height, which he found standing upright near the famous Nalanda\* convent in Bihar. It is not impossible that the provenance of the copper for those statues was the Singhbhum district of Bihar, where many ancient workings delineate a copper-bearing belt, some eighty miles long (Brown and Dey, 1955: 146). Another gigantic image of the Buddha made of copper was erected during the reign of the Kashmiri king Lalitāditya Mukṭāpīda (c. 715-756) of the Karkota dynasty, for his stūpa at Parihāsapura (Kashmir). It was famous throughout the whole period previous to the Muslim onslaught (Lee, 1974: 4 and Goetz, 1952: 75. The latter's source is the

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not to be assigned to the Harṣavardhana's kingdom, then we must wait until the second half of the VIIIth century before a royal dynasty is established in Bihar again. Gopala, the founder of the Pala dynasty of Bengal, conquered Bihar about the middle of the VIIIth century.

\* The same pilgrim "refers to an unfinished brass vihara (convent) near Nalanda made during (...) the seventh century A.D.) (Rāy, 1956: 95; cf. Beal, Si-yu-ki (undated), II: 174). For a discussion of the use of the term "calamine" to indicate brass, see ibid., n. 103. Hiuen Tsiang left China in 629 and returned there in 645 A.D.

Rājatarāṅginī\*).

The choice of the materials preferred to bronze, that is copper and brass, should not surprise anyone aware of the fact that there are no tin ores worth mentioning in India\*\*, whereas the availability of lead and zinc ores in Rajasthan\*\*\* made brass the alloy of obvious use in statuary\*\*\*\*. Since calamine ore was available in India, it may have been cheaper than tin anyway.

Recent metallurgical analyses of Tibetan and Himalayan statuary

Kramrisch (1964: 127) was one of the first art historians to recognize that "although Nepali metal sculptures are ordinarily referred to as 'bronzes' they are actually composed of copper. Some cataloguers quite reasonably designate them as copper images. In Nepal and India, however, these metal figures are known as made of Ashta-dhatu (eight 'elements' or metals). The eight metals include gold and silver."\*\*\*\*\*.

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\* Book IV, v. 203: "With just as many thousands of Prasthas of copper he made the glorious (statue of) the 'Great Buddha' (Brhadbuddha) which reached up to the sky" (Stein, 1900, I:142).

\*\* See below, p. 164, n. 1. There are no tin mines in India.

\*\*\* Cf. Brown and Dey (1955: map VIII). For a detailed discussion of zinc, see below. Indian zinc ores did not bear enough for home consumption and we know from Polo that Gujarat imported tatty besides other metals (see above, p. 116).

\*\*\*\* In a similar way the "general absence of bronze" in Islamic metalwork "need cause no surprise as tin is not found in or even near the Islamic world" (Craddock, 1979: 73).

\*\*\*\*\* Besides Kramrisch (cf. also *ibid.*: 127-42), other art historians have described accurately the materials of the Newar metal images taken into consideration. For example, Coomaraswamy (1978: 14, 15, 21 and pls. XI, XIX, and XLVI) describes three Nepalese statuettes of the Xth, XVth and XIVth-XVth centuries as being made of "copper gilt", "brass gilt" and "copper gilt" respectively.





69. Śaḍakṣarī. Tibet. XIIIth century (?). Brass.  
7 $\frac{3}{4}$  in. (20 cm.).

However, Kramrisch does not expand on the myth of the asta-dhātu alloy and seems to accept, at least partially, its traditional composition (cf. ibid.: 36). More interesting in view of the metallographic study of Himalayan metal statuary are Werner's analyses of "northern Indian" metal images: most of the items in his table of northern Indian objects are in fact described as Nepalese and their metallographic data confirm that copper and (especially from the XVIIIth century) brass are the two traditional statuary metals of Nepal.

In 1977, Béguin announced that a study of statuettes from the Musée Guimet by the Laboratory of the Musée du Louvre had failed to give constant proportions in statuary alloys, and mentioned the presence of bronze with a tin percentage higher than copper and of brass in a number of pieces. Unfortunately, he did not support his statement with any published analytical results, nor did he specify the origin of the "bronzes" taken into consideration\*. The lack of available metallurgical data on Tibetan statuary alloys prompted me to approach Mr. Jim Black, metal conservationist at the Institute of Archaeology of the University of London, in November 1978. Mr. Black kindly analyzed a 20 cm. XIIIth century (?) Tibetan Ṣaḍakṣarī, then belonging to the Aniko Collection (Reg. No. 106), from a sample filed from the inside of the statue

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\* In a letter dated November 13, 1979, Mr. Béguin told me that he and his colleagues of the Laboratoire du Louvre were still working on their results and hoped to publish them in 1980.

by myself. His results confirmed my thesis that brass and not bronze was the alloy used to cast that statuette, the hypothesis being that, from mere observation of the aspect of the alloys, Tibetan and Himalayan metal statuary is cast or hammered almost exclusively in brass and copper: only copper, zinc and a very small amount of iron (perhaps from my file!) were detected in the alloy which could only be brass.

In 1979, a further step was taken in the Research Laboratory of the British Museum towards the scientific investigation of Tibetan and Himalayan statuary alloys. The results, obtained by X-ray fluorescence from a selection covering the period XIIth-XVIIIth centuries, are as follows:

| <u>Reg. No.</u>   | <u>Description</u>                           | <u>Origin</u> | <u>Century</u> | <u>%Cu</u>     | <u>%Zn</u>     | <u>%Pb</u> | <u>%Sn</u>   |
|-------------------|--|---------------|----------------|----------------|----------------|------------|--------------|
| 1952.<br>11.1.1.  | Kālaṃbhalā                                   | Tibet         | XII-XVth       | 72-77          | 20-25          | 1          | N.D.         |
| 1969.<br>11.4.1.  | Śiva & Parvatī<br>(figure)<br>(base)         | S. Tibet      | XIII-XVth      | 72-77<br>72-77 | 20-25<br>20-25 | 1<br>1     | N.D.<br>N.D. |
| 1959.<br>10.16.2. | Maitreya                                     | Tibet         | XVth           | 62-67          | 33-38          | N.D.       | N.D.         |
| 1880.<br>126.     | Sitatārā<br>(figure)<br>(base)               | Tibet         | XVth-XVIIIth   | 92-97<br>72-77 | 1-5<br>20-25   | 1<br>1     | N.D.<br>N.D. |
| 1979.<br>5.14.1.  | Vajradhara                                   | Tibet         | XVth           | 83             | 15             | 0.7        | 2            |
| 1968.<br>12.16.1. | Mañjuśrī                                     | N. China      | XIV-XVIIth     | 80             | 20             | <1         | N.D.         |
| 1909.<br>8.2.5.   | Bodhisattva                                  |               | XVIIIth        | 72-77          | 17-22          | 3-6        | N.D.         |
| 1979.<br>7.26.1.  | Seated Lama*<br>(1st pouring)<br>(2nd & 3rd) | Tibet         | XV-XVIIth      | 60-65<br>75-80 | 30-35<br>20-25 | 2<br>2     |              |

\* John Lowry has drawn attention to the striking similarity between this portrait and another one inscribed "Pan-chen Phyogs-las-rnam-

The above analyses may be supplemented by the data provided by Riederer (in Uhlig, ed. , 1979: 63-68) who considered thirty-seven statues from Tibet, the Himalayas and northern India.

The results of their analysis\*, which was carried out by Mr. Henschel at the Rathgen-Forschung Laboratory in Berlin by atom-absorption technique, follow:

| <u>Cat.</u><br><u>No.</u> | <u>Description</u> | <u>Origin</u> | <u>Century</u> | <u>%Cu</u> | <u>%Zn</u> | <u>%Sn</u> | <u>%Pb</u> |
|---------------------------|--------------------|---------------|----------------|------------|------------|------------|------------|
| 49                        | Buddha             | Swāt          | VI-VIIth       | 81.683     | 4.66       | 8.08       | 4.22       |
| 51                        | Buddha             | Swāt          | VIIIth         | 78.10      | 19.09      | 0.26       | 1.42       |
| 56                        | Buddha             | Kashmir       | IX-Xth         | 73.106     | 13.8       | 0.97       | 10.37      |
| 43                        | Śākyamuni          | Pala          | Xth            | 84.30      | 9.12       | 2.85       | 2.38       |
| 46                        | Maitreya           | Pala          | XI-XIIth       | 88.34      | 9.90       | 0.16       | 0.28       |
| 57                        | Vajrasattva        | Ladakh        | XI-XIIIth      | 85.209     | 11.98      | N.D.       | 1.22       |
| 53                        | Maitreya           | W.Himālaya    | XII-XIIIth     | 82.31      | 14.33      | 1.49       | 1.37       |
| 85                        | Maitreya           | Nepal         | Xth            | 98.88      | -          | 0.81       | -          |
| 87                        | Akṣobhya           | Nepal         | XVth           | 96.50      | 2.62       | 0.12       | 0.55       |
| 95                        | Maitreya           | China         | XIIIth         | 98.35      | -          | 0.13       | 0.01       |
| 136                       | Śākyamuni          | China         | 1426-35        | 87.01      | 10.09      | 0.25       | 1.82       |
| 69                        | Akṣobhya           | W. Tibet      | XI-XIIth       | 76.71      | 21.37      | 0.11       | 0.36       |
| 71                        | Śākyamuni          | Tibet         | XIII-XIVth     | 81.103     | 17.44      | 0.35       | 0.35       |
| 76                        | Ratnasambhava      | W. Tibet      | c. 1300        | 74.625     | 16.29      | 2.57       | 3.69       |
| 98                        | Vajrasattva        | S. Tibet      | XIVth          | 99.28      | 0.03       | N.D.       | 0.01       |
| 79                        | Akṣobhya           | W. Tibet      | XIV-XVth       | 75.306     | 11.33      | 0.65       | 9.22       |
| 73                        | Akṣobhya           | W. Tibet      | XVth           | 80.87      | 16.54      | 0.52       | 0.82       |
| 75                        | Akṣobhya           | W. Tibet      | XVth           | 83.44      | 12.35      | 0.47       | 2.05       |
| 100                       | Guhyasamāja        | Tibet         | XVth           | 97.37      | 1.57       | 0.31       | 0.07       |
| 101                       | Amitāyus           | Tibet         | XVth           | 99.21      | 0.04       | N.D.       | 0.01       |
| 109                       | Śākyamuni          | Tibet         | XVth           | 92.88      | 5.68       | N.D.       | 0.23       |
| 74                        | Akṣobhya           | W. Tibet      | XV-XVIth       | 81.06      | 12.74      | 1.86n      | 2.41       |
| 104                       | Vajrasattva        | Tibet         | XV-XVIth       | 84.429     | 10.54      | N.D.       | 0.23       |

"rgyal-la na-mo bKra-shis." (Victoria and Albert Museum, No. I. M. 20.1929). Lowry dates the Victoria and Albert's lama to the late XIVth or early XVth century.

\* The analyses are accurate within 1/1000%. The copper percentage was obtained by subtracting the total sum of the percentages of tin, lead, zinc, iron, nickel, silver, antimony and arsenic from 100.

| <u>Cat.</u><br><u>No.</u> | <u>Description</u> | <u>Origin</u> | <u>Century</u> | <u>%Cu</u> | <u>%Zn</u> | <u>%Sn</u> | <u>%Pb</u> |
|---------------------------|--------------------|---------------|----------------|------------|------------|------------|------------|
| 107                       | Śākyamuni          | Tibet         | c. 1500        | 90.69      | 8.40       | 0.13       | 0.16       |
| 105                       | Vajradhara         | Tibet         | XVIth          |            |            |            |            |
|                           | (figure)           |               |                | 77.59      | 22.07      | N.D.       | 0.07       |
|                           | (mandorla)         |               |                | 87.64      | 9.02       | 2.63       | 0.37       |

From all the data mentioned so far, it may be inferred that:

- i) Brass was the most common alloy used in Tibet from the XIth century (cf. also below, "The Cleveland Buddha") onwards; copper was used unalloyed, too. The preference given to brass in western Tibetan\* statuary may be due to its direct connections with Kashmiri statuary, which is usually cast in brass (see above and also Cat. No. 56 of the above list). In central and southern Tibetan statuary, copper is more frequently used, perhaps because of the influence of Newar statuary, which appears to have been cast almost exclusively in copper until the XVIIIth century.
- ii) Zinc metal as opposed to zinc ore may have been known to Tibetans perhaps as early as the XVth century, as appears from the high zinc percentages in Reg. Nos. 1959.10.16.2 and 1979.7.26.1. For a detailed discussion, see below under "Zinc", p. 153 in particular.
- iii) Copper was by and large preferred to brass in Newar statuary until the XVIIIth century (cf. Werner, 1967: 184-5). For a detailed discussion of this circumstance, see below under "Copper" and "Brass".

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\* On the question of "western" Tibetan statuary, see ch. I, p. 12, n. 1.



iv) Copper was not only used in connection with amalgam gilding\*, but also as a noble metal on its own (cf. British Museum Reg. No. 1880-126). It has been pointed out that "the Tibetans must have been sensible, like us, to the perfection and mastery of a material which gilding would have profoundly invalidated, to such a degree that we are tempted to attribute a greater aesthetic value to ungilt than to gilt statues, in opposition to a widely spread opinion amongst Western collectors" (Neven, 1975: 14). A number of Tibetan and Himalayan images stored in the British Museum were cast in copper and not gilded at all\*\*.

v) Brass was also used for fire-gilding purposes (cf. Cat. No. 107) by Tibetan artists, although brass is difficult to fire-gild and requires treatment of the surface previous to the application of the amalgam. Lead should be absent from brass used for fire-gilding, for it would melt during the heating process. My Newar informants are well aware of the latter circumstance.

vi) Not one example of bronze statuary emerges from all our available data to this day, although rare examples of statues cast in that alloy may exist in Tibetan and Himalayan statuary. Significantly, the one VIth-VIIth century bronze Buddha whose analysis is given above (Cat. No. 49) comes from Swāt.

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\* Whereas brass and bronze are difficult to fire-gild and require treatment of the surface previous to the application of amalgam, copper is ideal for mercury-gilding. This circumstance has allowed Graddock and Oddy to postulate a direct connection between the use of pure copper and mercury-gilding in Greek and Roman statuary. The same cannot be said of Tibetan and Himalayan statuary, where copper is also used independently.

\*\* As an example of a large ancient ungilded copper image in the Nepal Valley I could mention the Avalokiteśvara in the courtyard of Kwa Bahal illustrated by Pal (I, 1974: No. 189).

The Cleveland Buddha: a case study

The comparative study of metals used in Tibetan and Himalayan statuary is very important for establishing metallurgical patterns relating to the areas of provenance of the objects. That stylistic evidence alone is not always sufficient for dating purposes may be illustrated, for example, by the case of a stone standing Ratnasambhava at Svayambhūnāth attributed by Goetz to the early VIth century (Goetz, 1969: 186 and pl. XLVII) and by Pal to the XVIIth century A.D. (Pal, 1974, I: pl. 78). Epigraphic evidence is also important, and, in the case of metal images, metallographic analysis may provide further circumstantial evidence for the origin and sometimes dating of a statue. The following discussion is an attempt to cast some light on the date and origin of one metal image on the strength of historical, epigraphic and metallurgical evidence.

On August 7, 1979, I requested the Cleveland Museum of Art to let me have any analytical results which they might have of their famous standing "Kashmiri" Buddha inscribed with Tibetan characters. Stanislaw Czuma, curator, kindly informed me that two samples of their "Kashmiri bronzes" (No. TR 14130/1 and TR 14164/1) had been analyzed in 1966 by the Case Institute of Technology by means of X-ray emission spectroscopy, using the oxide pellet technique, and the report given was:

|                     | <u>%Cu</u> | <u>%Zn</u> | <u>%Pb</u> | <u>%Au</u> | <u>%Sn</u> | <u>%Fe</u> | <u>%Ni</u>    | <u>%As</u> | <u>%Sb</u> |
|---------------------|------------|------------|------------|------------|------------|------------|---------------|------------|------------|
| Sūrya (TR 14130/1)  | 78.1       | 18.7       | 2.75       | 0.4        | 0.20       | 0.15       | less than 0.1 |            |            |
| Buddha (TR 14164/1) | 68.3       | 20.2       | 11.0       | 0.1        | 0.10       | 0.25       |               |            |            |

Abundant literature exists on the subject of the latter statue (cf. Béguin et al., 1977: 292), which is also known to art historians as the "Cleveland Buddha". Though often described as "bronze" or "gilded bronze", the image was in fact cast in brass and inlaid with silver and copper (Lee, 1967: 45). It measures 0.981 x 0.28 x 0.165 m. and is inscribed as being a "vow of the lha-btsun Nāgarāja".

Nāgarāja's name appears in the Deb-ther sngon-po (1467-8, by gZhon-nu-dpal: ka, 19 a l. 7; cf. Roerich, 1949: 37 with Tucci, 1933: 77) and in the rGyal-rabs (by bSod-nams rGyal-bstan, bSam-yas, 1328: fol. 142a, l. 2) as reported by Tucci, who has discussed fully the western Tibetan dynasties and illustrated with comparative tables the genealogy to which Nāgarāja belongs\*. According to the former source, which is regarded as the most reliable by Tucci on the grounds that it is written by such a scrupulous translator as gZhon-nu-dpal (1392-1481) and is in agreement with that of another scholar known for his accuracy, Bu-ston (1290-1364), Nāgarāja was the son of the western Tibetan king 'Khor-re, who took his vows and became a monk with the title and name of lha-bla-ma Ye-shes-'od. According to the latter source, Nāgarāja was Ye-shes-'od's nephew. As suggested by Snellgrove (1957: 184, n.a ), Ye-shes-'od must have died about 1040. His name is associated with that of his grand-nephew lha-btsun(-pa) Byang-

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\* Cf. Tucci (1933,II:17, 19, 22; 1956: 53 ff.). In neither of the Tibetan sources mentioned above is Nāgarāja's name preceded by the title of lha-btsun (Tucci, 1933,II:77 and 80), which, however, is found in the Deb-ther sngon-po (ca, 2 a, l. 5) in front of the name of Nāgarāja's second cousin, Byang-chub-'od (Tucci, 1933,II:81). Petech(1977: 31 and 55) aptly translates the term as "monk-prince".

-chub-'od, and the two are mentioned as "the two lha-btsun\*, uncle and nephew" in Padma-dkar-po's verse treatise on the metals and alloys used in the casting of sacred images:

"Regarding the varieties (of early Tibetan metal images) at the time of the two monk-princes, uncle and nephew\*\*, they were mixtures of red copper — zi-khyim\*\*\* —, thickly coated with gold from Zhang-zhung\*\*\*\*.

Their nose is beautiful and the shape of their body sturdy.

Their déhançement has a graceful manner. Those which resemble the images of Nepal are called mthon-mthing-ma\*\*\*\*\*.

It was at the request of Ye-shes-'od and Byang-chub-'od that the great translator Rin-chen-bzang-po (958-1055) went on his second journey to India with the task of "bringing back books

\* Translated by Petech (1977: 55) as "monk-prince".

\*\* See Tucci (1933, II: 51) and Karmay (1980: 150).

\*\*\* See below, pp. 142-6.

\*\*\*\* Guge, in western Tibet. On Zhang-zhung and its extension see Tucci (1956: 71 ff.).

\*\*\*\*\* I. e. "azurite blue ones", with reference to the pigment (see below, p. 139) used to paint their raised up hair. See also Tucci (1959: 186) and Karmay (1975: 7). Padma-dkar-po's verses (1973 repr., I: 301-2) read:

"Bye-brag lha-btsun khu-dbon rnam gnyis dus  
zangs dmar zi-khyim bsres-pa Zhang-zhung gser  
'thug-po (for: thug-bo) dbyugs-pa shangs bzang sha-  
-tshugs rgyas  
'gyin-bag bde-nyams Bal-po'i lha 'dra zhig  
'byung-ba 'di-ltar mthon-mthing-ma-fu grags".

Dagyab (1977, I: 56) follows a text on statuary alloys by 'Jigs-med-gling-pa (1729-1798), who is largely indebted to Padma-dkar-po's own verse treatise on the subject, to tell us that lha-bla-ma Ye-shes-'od and lha-bla-ma Byang-chub-'od had many statues cast in native copper mixed with other metals, and that those cast in li-khra, a kind of brass alloy (see below, pp. 142-5), "were of such fine quality and resembled so closely the Indian statues as to be easily mistaken for them." The Cleveland Buddha, which was probably cast in western Tibet by Kashmiri artists or by their Tibetan pupils, well illustrates the resemblance pointed out by Dagyab's sources.

and artists to model the statues of the gods. During that second stay, Rin-chen-bzang-po had the opportunity of testing the ability of Kashmiri sculptors. On the occasion of his father's death, Rin-chen-bzang-po "went to see the artist Bhidhaka and asked him to make an image of Avalokiteśvara the same size as his father, which he took back to Tibet on a wooden cart and put in the Kha-ce go-khor temple." (Karmay, 1975: 34, n. 131). After six years, Rin-chen-bzang-po returned to western Tibet with thirty-two Kashmiri artists (fol. 33 of Rin-chen-bzang-po's biography followed by Tucci in his monograph on the great translator; cf. Tucci, 1933,II:67). Thanks to royal patronage, Rin-chen-bzang-po put his artists to work and built temples and chapels in twenty-one different places donated to him by the princes of western Tibet. Special preference was given to the temple of Rad-nis, in Khyung-chen, the birth place of Rin-chen-bzang-po. That temple was adorned with "forty-five statues made of copper or brass" and the term used in the text is unequivocally rag, "brass"\*. Tucci (1935,V:122) saw copper and brass images made, according to tradition, by the artisans of Luk in the now half-ruined temples of Tsaparang, in western Tibet\*\*.

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\* Cf. Tucci (1933,II:69): "gzhan-yang (ms. bzhan) zangs (ms. zang) sku rag sku-la sogs-pa'i rten rnam-pa bzi-bcu-zhe-lnga bzugs-so". Tucci translates rag as bronze, inconsistently with his translation of that word anywhere else (for example, in Tucci, 1959 : 180) and with the generally accepted translation of rag as "brass".

\*\* These may well be the same images illustrated by Govinda (1979, II: 160 and 162) and discussed in ch. II, p. 12 .



Whether we read the inscription of the Cleveland Buddha following Karmay, as I have done, or we translate it as "vow of lha(-bla-ma Ye-shes-'od), btsun(-pa Byang-chub-'od\* and) Nāgarāja", as may be suggested following Tucci's interpretation of the anonymous text based on Padma-dkar-po's, we are here in the presence of a large brass figure cast with a relatively high percentage of zinc, and attributable to the XIth century, if we accept that the inscription is contemporary with the statue: "It would be very unlikely for a man to acquire an ancient image and usurp it as his own." (Pal, 1975: 100).

It may be mentioned here that another Nāgarāja (Tucci, 1956: 50, 53, 54, 56-8, 59, 65-6, 69, 70-1, 106-8) appears as the head of a Malla family which "entered Western Tibet - Guge - and ruled over it for about two centuries" (Tucci, 1956: 3), in an inscription of May 1357 studied by Tucci (1956: 47, bottom line). This Nāgarāja, who appears in the Blue Annals (Roerich, 1949: 37) and various other chronicles studied by Tucci with the name of Nāgadeva (or Na-ga-lde, in the rGyal-rabs, p. 142a, l. 2, and Deb-ther dmar-po, p. 38a; cf. Tucci, 1933, II: 90 and 1971: 169, respectively), defeated

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\* Following the bKa'-thang (Potala ed., nga, 69): lha-bla-ma Ye-shes-'od and btsun-pa Byang-'od (sic). Cf. Tucci (1933, II: 21 with 1959: 186, n. 34). At the time of Rin-chen-bzang-po's return from Kashmir with his team of artists, Ye-shes-'od was the prisoner of a tribe, probably the Qarlug (cf. Snellgrove, 1957: 294, n. 43), which never released him. The fact that his name in the inscription is not immediately followed by that of his son (or nephew), Nāgarāja, but by that of his grand-nephew, Byang-chub-'od, might be owed to the close historical association of their names, by virtue of their common activities.

a kingdom in Cīna\* and established his capital in Semjā (Ya-tse, north-west of Jumla, in western Nepal). Comparing in detail his Tibetan and Nepalese sources, Tucci concludes that "an invasion from the south-west followed the arrival in Gu-ge of some families from Central Tibet, who were responsible for the first efficient introduction of the Tibetan culture after the colonization started with K'ri sroñ lde btsan and its conquests"\*\*\* and that the ancestor of the Malla dynasty Nāgarāja/Nāgadeva "and his successors conquered the country and controlled it along with western Nepal up to the 14th cent." (cf. Tucci, 1956: 106-7). If we supposed that the title of lha-btsun was kept by the "aryan-speaking tribes" who broke into Tibet about the XIth century, which Tucci has proved to have gone "so far as to Tibetanize their habits and names" (Tucci, 1956: 109), and that the Nāgarāja of the Cleveland Buddha inscription is in fact Nāgadeva, Karmay's dating of the Cleveland Buddha "to the beginning of the 11th century" (Karmay, 1975: 29. Cf. Pal, 1975: 100) could be shifted to the second half of the same century. In either case, we can safely assume that the Cleveland Buddha was cast in the XIth century and conclude that by the end of that century a

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\* Cf. Tucci in Macdonald (ed., 1971: 548): "that Cīna was a province lying near India appears clear from the evidence which can be collected from the literary sources, and that it was in the proximity of N. Western Nepal is proved by the reference to it contained in the inscriptions I discovered in Dullu."

\*\* Tucci (1956: 71). In vol. II of Snellgrove and Skorupski's work on Ladakh, Denwood argues that the area was already culturally Tibetan on grounds of linguistic and epigraphic evidence.

well-advanced brass statuary technology penetrated from Kashmir into western Tibet\*, as is confirmed by the literary evidence provided by Rin-chen-bzang-po's biography.

#### Technological implications

From the metallurgical analysis of the Cleveland Buddha it also appears that "the parts of the mix are radically at variance with those prescribed by various ancient holy texts for the guidance of artisans. In these, unfounded theory takes precedence, and we are given imaginary formulae for particularly auspicious combinations of metals based on numerical magic but certainly incapable of producing the desired effect" (Lee, 1967: 47). How true that is may be verified by comparing Werner's tables of analyses of northern and southern metal images with the fanciful compositions of the five- and eight-metal alloys used in the manufacture of metal images according to the Indian scholastic traditions\*\*.

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\* This conclusion may cast some more light on a similar but smaller (22.7 cm.) "Kashmiri" brass image inlaid with silver and inscribed with Tibetan characters, which was studied by Gorakshkar (1971: 33-4). Gorakshkar had the inscription "rGya-gling" (a Tibetan place-name) wrongly transliterated by the Office of the Chief Epigraphist of Mysore, which obviously did not identify the script. Gorakshkar attributes the statuette to the VIIIth century A.D. For all we know, that image may be as late as the Cleveland Buddha: in the VIIIth century, Kashmir "was being ravaged by raiding Tibetans, who were (...) scarcely yet converted to Buddhism" (Snellgrove and Skorupski, 1977: 6). "Indo-Tibetan" would define this type of statuette better than "Kashmiri".

\*\* For their extravagant statements in the field of metallurgy, the reader is directed, for example, to Bhattacharya (1932: 121-135). See also above, pp. 110-111.

Thus, also on the basis of my discussion on pp. 108-118, I cannot help subscribing to Lee's conclusion that "the artisan knew better, and his results were more faithful to the intent of the text insofar as they depart from the magical formulae" (1967: 47).

The date and composition of the Cleveland Buddha are also important, for they prove beyond any doubt that by the XIth century there existed in Kashmir and western Tibet a brass technology which preceded by three hundred years the use of brass in eastern Asia: in Thailand, Cambodia and Java, zinc appears as nothing but a chance impurity until about the XVth century, whereas that element's presence in excess of a couple of per cent is generally regarded as a post-XIth century A.D. feature of Chinese bronze technology\*. Brass technology with zinc levels often in excess of 30% "prevailed through the Far East from the XVIIth cent. onwards"\*.

Furthermore, the Cleveland Buddha provides the necessary historical and artistic and metallurgical link between western Tibetan statuary, which we have seen to be cast almost exclusively in brass, and north western Indian statuary, where the introduction of zinc in the melt seems to have been remarkably early in some regions: in Kashmir and Gujarat,

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\* Cf. Fleming, "Scientific Analysis of Ceramics and Bronzes" (undated paper, after 1972). Cf. also Werner (1972: 140, table 9.1, No. 7). Werner, however, gives the analytical data of a 15.7 cm. Chinese brass Buddha dated to 533 A.D. (Werner, 1972: 192-3, No. 349). Werner and Fleming's assumption of a late start in Chinese brass technology is also challenged by Needham's data of T'ang coin compositions whose bulk mint figures allow 14.5% zinc and 83.5% copper (Needham, 1974: 210, table 98).

deity groups of even the VIIth century A.D. may contain more than 15% zinc (cf. Werner, 1972: 138)\*.

Finally, though Werner has suggested that the use of zinc metal as opposed to zinc ores\*\* as an alloying material may have begun in China earlier than in India (Werner, 1972: 141), the wide use of statuary brass in north western India and the advanced technology required to cast a statue like the Cleveland Buddha, "probably the largest Kashmiri metal image known outside the region" (Lee, 1967: 44), point to the suggestion that the technological revolution leading to the recognition of the necessity of an external condenser for the smelting of zinc metal in commercial quantities may have started in north-western India\*\*\*.

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\* The fact that brass items are found at Taxila in strata corresponding to the IIIrd and IIInd centuries points to the suggestion that brass was used in India from a much earlier date than Werner and Fleming may have been able to suggest.

\*\* On zinc metal, see below, p. 147 ff. Only zinc in proportions higher than 30% is evidence of the manufacture and use of metallic zinc, instead of calamine ores, in brass casting (Werner, 1972: 138-9). A challenge to the common assumption that metallic zinc was not produced in India until the Middle Ages is provided by the analytical data of a brass vase found at Taxila in a layer corresponding to the IIIrd century B.C., containing 34.34% in the alloy (cf. Marshall, 1951, I: 107 and II: 568, table IV, No. 28). Cf. also a percentage of 30.3% zinc in the early brass referred to by Sahai (see above, p. 113).

\*\*\* In the light of this purely speculative suggestion, it would be interesting, for example, to analyze the zinc percentage of the datable masterpiece of medieval Kashmiri metal statuary which has been discussed at length by Goetz (1969: 77-87, pls. XXVI-XXVII. Cf. also Pal, 1975: 70-3). It is a gigantic brass frame of c. 900-905 A.D., found in 1931 at Divisar and now at the Srinagar Museum, measuring 6½' in height and weighing 360 lbs. (Goetz, 1969: 79). It was cast in one piece and, preceding the Cleveland Buddha by less than two centuries, it must be regarded as representing an early phase of the Indo-Tibetan brass sculpture known to us mainly from western Tibet (cf. Goetz, 1969: 87).



Individual metals: the literary evidence

Copper

Copper occupies a pre-eminent position in the traditional classification of metals in India\*, Nepal and Tibet\*\*, and in their metallurgies. Pure copper in particular is very highly thought of: "Red copper is superior on inspection" (Padma-dkar-po, 1973, I: 295, l. 2). The Mongol lay physician 'Jam-dpal-rdo-rje (early XIXth century) explains that "native copper from under the earth is as precious as gold: it is rock copper. The native red copper from rock copper\*\*\* is called 'gold copper'. Black copper\*\*\*\* is called 'iron copper'." (Chandra, ed., 1971: 41). 'Jam-dpal-rdo-rje's definition of "native copper" casts light on an otherwise obscure term used by the dGe-lugs-pa encyclopaedist Klong-rdol bla-ma (1719-1805. Cf. Smith, 1969: 26 ff.) and recurrent in Tibetan metallurgical literature (for example, in Padma-dkar-po, 1973, I: 300, l. 3):

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\* Cf. Hamilton (1819: 77): "copper bears in India a much greater value in proportion to silver than it does in Europe".

\*\* Zangs, zangs-dmar, and sometimes li-dmar and zi-khyim are the Tibetan terms generally used to define "copper". Cf. Dagyal (1977, I: 51-2).

\*\*\* The host rock may be porphyry, schist, conglomerate rock, or other rock.

\*\*\*\* Cupric oxide?

"The one which is dug out like gold is native copper.

It has the famous name of 'precious dzhai kshim stone'".  
Klong-rdol adds that "copper is dug out from parts of Nepal" and makes a distinction between pure Nepalese copper, soft and without grooves, and a late poor quality copper of his day, harsh and with many grooves (Klong-rdol bla-ma, 1973, ha: 1462, ll. 3-4). Nepalese copper was known in India from at least the VIIth century, for Hiuen Tsiang, who travelled in India from 629 to 645, reports that Nepal "produces red copper (...). In commerce they use coins made of red copper" (Beal, II: 80. Cf. Watters, 1905, II: 83). It is a fact that copper is found in small deposits in hilly areas of Nepal, "particularly Baglung and other areas in the western hill region" (Regmi, 1971: 68), and had been extracted and also exported from that country to India\*\*at least since the XIth century, for the use of Nepalese copper is mentioned in C-akrapani Dutta's treatise, Cakradatta, written in 1050 A.D. (Rāy, 1956: 108 and 110). In Book V, vv. 42-4, of the late XIIIth century\*\*\* Rasaratnasamuccaya we read: "There are two

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\* Klong-rdol bla-ma (1973, ha: 1462, ll. 1-2). On this metal, see below, pp. 142-6.

\*\* On the location and mining from ancient times of copper ores in northern India, see Brown and Dey (1955: 146-154): "There are many occurrences of copper ores in the outer ranges of the Himalayas at intervals from Sikkim in the east to Kashmir in the west. In Sikkim they were worked extensively in the past by Nepalese miners". A copper mine in Kamrāz (Kashmir) is mentioned in Kalhana's Rajatarangini (Book IV, vv. 616, in Stein, 1900, I: 176). "Mining of copper ores and the extraction of the metal had been carried out on a large scale in the various states of Rajputana (Rajasthan) from a very early time till towards the end of the 19th century" (Rāy, 1956: 210).

\*\*\* Rāy (1909: 222-3). The best quality copper is said to come from Nepal also in the Rasāyanaśāstra (Tib.: Gser-gyur-gyi bstan-bcos bsduḍ-pa) a short treatise included in the Tenjur.

varieties of copper: the one brought from Nepal is of superior quality" (Rāy, ed., 1956: 182)\*. Rāy concludes: "On account of its purity Nepal copper was highly valued in old days" (1956: 93-4). During his mission in 1793, Kirkpatrick noticed the presence of copper mines in Nepal and reported that, though some of them were nearly exhausted, others were being exploited by a caste of miners (Kirkpatrick, 1975 repr.: 62). The government profits from their annual revenue had been three to four lakhs of rupees, a considerable yield, and in those days Nepal must still have been self-sufficient in copper, for the item does not appear in Kirkpatrick's list of principal metal commodities exported from the East India Company's dominion in Nepal, either for use in that country or for the Tibetan market (Kirkpatrick, 1975 repr.: 209). Copper was in fact still being exported from Nepal into Tibet, as it appears in Turner's list of usual articles of commerce between Tibet and the surrounding countries (Turner, 1800: 382).

Klong-rdol's indication of copper as a metal of Nepalese origin is again confirmed by Hamilton's mention of about forty copper mines and sites in Nepal\*\*, of the export of "large

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\* Again, the land of the Kiratas (western Himālaya) is mentioned in connection with the production of copper pyrites in Book II, v. 77. The same verse occurs in Nāgārjuna's Rasaratnākara, vv. 25-30 (cf. Rāy, ed., 1956: 130 and 168). Nepal is mentioned as a copper-bearing country also in the Dhātūkriya (couplets 143-5 in Rāy, ed., 1956: 210).

\*\* Cf. Hamilton (1819: 76-7, 203, 242, 264, 267, 269, 272, 275, 277 and 301). In Parbat (or: Malebum) alone "the mines of copper are said to be twenty-five in number, and produce a great revenue" (Hamilton, 1819: 272).

quantities" (Hamilton, 1819: 272)\* of copper to India, and the use of Nepalese copper both in Nepal and in Tibet. Again, Hodgson (1972 repr.: 119) noted that "Nepal is full of fine copper, and supplies copper currency to the whole tract" and that copper pots and the like were exported from Nepal to India. In the XVIIIth century, copper from the northern areas of Nepal was traded in Terai (Regmi, 1971: 20). By the end of the XVIIIth century the production of copper in Nepal was barely enough for home consumption, although the trend obviously continued in spite of the fact that not only its export, but even its private trade had been banned and stringent methods adopted to stop it being smuggled out of the country at least since 1813\*\*. From 1800 all existing mines in Nepal were brought under direct governmental management and arrangements were made to purchase copper on a monopoly basis from all mines in Nepal. Indeed, Kirkpatrick had already noticed that "European copper was procurable in Calcutta" for one rupee a seer and less expensive than Nepalese copper. Colonel Kirkpatrick had a poor opinion of Nepalese mining expertise and notes the "backwardness of the natives in the arts of mineralogy and metallurgy" (1975 repr.: 176)\*\*\*. Copper appears

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\* It should be noted here that Hamilton's list of articles of exchange referred to the past, whereas Kirkpatrick's and Hodgson's information on the subject of Nepalese exports and imports was up to date and issued from original research (cf. Lévi, 1905, I: 309-11).

\*\* Cf. the "Mining regulations, 1813" reported in Appendix G by Regmi (1971: 219).

\*\*\* Hamilton (1819: 76-7) reports that "the ore is dug from trenches entirely open above, so that the workers cannot act in the rainy season, as they have not even sense to make a drain. Each mine has attached to it certain families who seem to be a kind of proprietors, as no one else is allowed to dig".

as an import in Nepal from the turn of the XIXth century (cf. Lévi, 1905, I: 312) and has been imported ever since. Copper used by XXth century Newar artists is now bought on the London metal exchange and there is reason to believe that, by the end of the XIXth century, Nepalese copper mines were exhausted and that very little mining is done in Nepal nowadays. Casters buy it in sheets and use it with any scrap copper they may lay their hands on : old wires, mis-castings, cuttings from previous works, and so forth. The vast majority of so-called Nepalese "bronzes" are in fact fire-gilt copper images, for the use of gold and copper in Newar statuary is very ancient (cf. Kramrisch, 1964: 30). Copper is still very much in demand amongst Newar sculptors for the casting of finer statues, notwithstanding the problems that its high melting point (1083°C) poses for the still comparatively primitive Newar metallurgy. Its soft surface is easier to chase than the hard and brittle surface of brass statues, and it does not present any problems for fire-gilding.

Although Tibetan sculptors had alternative supplies to Nepalese copper, it is likely that Nepalese copper continued to reach Tibet in one way or another during the XIXth century, for, as a rule, Tibetans themselves did not get involved in mining on a large scale. They believed that precious metals contributed to the fertility of the earth (cf. Coales, 1919: 246) and feared upsetting the local gods of the earth\*.

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\* This attitude is reflected in the prayer offered by a specially appointed monk to a site to be excavated in order to obtain statuary clay: "O, Earth Goddess, I have come to beg from you some earth. Don't be angry or grudging" (Van Manen, 1933 : 105).



Consequently, they preferred to import metals from India\* *China*, East Turkestan and Nepal. To that effect, Hedin mentions Csoma's native source on the matter, dating from a few years before 1834: "Mines are rarely excavated in Tibet. In the northern part of Nari (sic), and in Guge, some gold dust is gathered, as also in Zanskar and Beltistan (sic) it is washed from the rivers. If they knew how to work mines, they might find in many places gold, copper, iron and lead." (Hedin, 1922, VII : 185). Ordinary Tibetans have religious and economic objections to the exploitation of mines: in Tibet "there is an old-established objection to mining on religious grounds. 'If minerals be taken out of the ground', says the ordinary Tibetan, 'the fertility of the soil will be weakened'. Many think that the minerals were put in the ground by the 'Precious Teacher', Padma Sambhava, when he brought Buddhist teachings from India, and that, if they are removed, rain will cease and crops will be ruined. The religious objection is intensified by an economic one. When a mine is found, the local peasants and others are expected to work it without pay. This work being for the Government, the system of ula (unpaid labour) is held to apply. So the villagers have every incentive to conceal the existence of mineral wealth, and will sometimes turn out and attack those who try to exploit the mine" (Bell, 1968 repr.: 110-111). Conflicts between Tibetans and Chinese, for example, arose in eastern Tibet, where the latter flocked to mine gold, especially when the gold-bearing sand lay beneath fields

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\* Cf., for example, the "Customs House Returns, Yatung" and the mention of metal imports in Candler, (1905: 65. Cf. Chandra, ed., 1971: 40-61, passim).

belonging to the former (Coales, 1919: 246). The Tibetan administration, on the contrary, was interested in developing the mineral wealth of the country (Bell, 1927: 158-9; cf. below, pp. 185-6).

The presence of copper ores in Tibet was reported by Saunders, who accompanied Captain Turner to Tashilhunpo, near Shigatse (Turner, 1800: 405). Turner himself mentions "mines of lead, copper, cinnabar and gold" on the roads to Ladakh and Kashmir (Turner, 1800: 296). Copper mines, as well as silver and gold mines, were mentioned also by Hedin's informants (Hedin, 1922, IV: 99), and deposits of malachite and azurite are known to exist in sNye-mo-thang, a site probably in the hills south-west of Lhasa, but placed by Ronge somewhere between Gyantse and Rin-spungs. Because of their importance, "the Lhasa government strictly controlled" their "mining and distribution", which supplied most of the green and blue pigments used by Tibetan painters (Jackson, 1976: 274). The central Tibetan administration mined the colour-bearing minerals only once a year, apparently not to exhaust the supply, but the people of sNye-mo also picked up loose bits on the mining site in order to sell them for their own gain (Ronge, 1978: 148). 'Jam-dpal-rdo-rje mentions specifically "malachite" (spang) and "azurite" (mthing) in his section dedicated to copper ores (Chandra, 1971: 57): "They appear in the earth which has malachite and azurite (...) By melting them there appears copper. It is the one which is called 'native copper'".\*

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\* Emerald green malachite is very commonly associated with deep blue azurite. Both are basic copper carbonates, to be found in nearly all copper mines: malachite is one of the commonest ores of copper and perhaps the most conspicuous, being a useful guide in prospecting; azurite, too, is an important copper ore. It is likely that the exploitation of ores like those of sNye-mo-thang was superficial, as was that of gold from alluvial deposits, for fear that extensive mining might upset the local earth divinities.

The existence of copper, besides iron, zinc, lead and a wealth of other minerals, was reported during the surveys carried out by investigation teams despatched to Tibet by the Geological Section of the Chinese Academy of Science after the occupation of the country in 1959. Copper also occurs in the northern foothills of the Kunlun between Yarkand and Khotan, and bronze and brass items from east Turkestan date from the VIIIth century (cf. Werner, 1972: 190-3, table 7.1).

In eastern Tibet for a long time, copper has been extracted to the south of Li-thang (Gong-kha-gling; Coales, 1919: 246 spells this place name "Kungkaling") and near 'Bathang (Le'), in eastern Tibet (Ronge, 1978: 145). It is interesting to note that "one of the most important areas for metal casting is the province of Kham in eastern Tibet. Three well-known centres in the province are Derge, Chamdo, and Reo-Chi" (Pal, 1969: 29). The smiths of sDe-dge, famous throughout Tibet, got their raw material also from Gong-kha-gling (Coales, 1919: 246). Copper ore was found in the area of sDe-dge itself: at Va-ra-dgon-pa, a copper "mine was opened in 1910 or thereabouts, but has since been closed" (Coales, 1919: 246). Although copper ore was worked in the neighbourhood of Zi-ling, on the Sino-Tibetan border, most of the copper objects in eastern Tibet and Amdo were imported from China. As the greatest copper deposits lie in eastern Tibet, and those in sPo-smad played no great role, central Tibetans occasionally obtained that metal from Khams (cf. Ronge, 1978: 146): "sometime

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\* On this district, see Waddell (1906: 440 and 502-3).

between 1851 and 1853", rDo-rje-don-grub of sKyid-stod "was sent to Khams to procure the copper necessary for the repairs at bSam-yas" (Petech, 1973: 91). It is possible that the copper exported from Tibet into Bhutan during the 1830s (cf. Pemberton, 1961 repr.: 77) was from eastern Tibetan ores, but it is certain that the metal continued to be imported into Tibet through its southern borders (cf. Ronge, 1978: 145) also for minting purposes (cf. McGovern, 1924: 342).

In Tibet, copper has been used either pure, or to form the various alloys which go under the general terms of li, 'khar-ba and khro. The 'Brug-pa bKa-rgyud-pa scholar and artist Padma-dkar-po (1526-1592) informs us that during the reign of Srong-brtsan-sgam-po native copper, li-dkar (white li), and li-dmar (red li) were used "pure", and also in composite metalwork (inlaid patchwork ; Padma-dkar-po, 1973, I: 300, l. 3), and that during the reign of Ral-pa-can (815-836) copper would be used not just to inset the lips of metal images, but also in their alloys, whereby "they gradually turned darker than the early ones"\*. Native copper was used in western Tibet either pure (cf. Tucci, 1959: 186) or in alloy

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\* Padma-dkar-po (1973, I:301-2). Details such as lips, nipples and eyelashes could be made of copper even in Western classical bronze statuary (cf. Craddock, 1977: 113). Also, the separate casting of pieces belonging to the same statue by the lost-wax process and the technique of fitting them together by crimping and rivetting were characteristic of Greek statuary. These techniques were also common in Indian metal statuary and were used, for example, in the making of the Sultanganj Buddha (see above, pp. 116-7).

with zinc. We have seen (above, p. 123) how copper has been used in Tibetan and Himalayan statuary both in connection with mercury-gilding and as a noble metal on its own. Copper has also been traditionally employed in Tibet and Nepal for embossed workmanship and relievo statuary, for its pliability and smoothness. Red li is mentioned by Padma-dkar-po as being used in northern Indian statuary along with brass, in a passage in which he acknowledges the excellence of the Newar style (Padma-dkar-po, 1973; I: 300, ll. 1-2). In view of the virtual absence of bronze and white metal and the use of brass and copper in ancient northern Indian statuary it may be postulated that the term red li as used by Padma-dkar-po more often than not corresponds to "copper" and white li to "brass".

#### Zi-khyim: a case study

A good example of a metal-designating Tibetan term and of the confusion arising from its various interpretations in the absence of any chemical analysis of actual samples, is a variety of iridescent li which might be defined as a kind of "bronze", if we were to trust the list of its ingredients as given by Klong-rdol (1973: 1462, ll. 1-2). It is known as li-khra\*\* and regarded as a variety of dzhai kshim\*\*\* (cf.

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\* Cf. Dagyal (1977, I: 52): "Li-dmar is the same as rañ-byuñ-ljon or rañ-byuñ-zans - natural copper."

\*\* Das (1976 repr.: 1212) translates li-khra out of the context of Klong-rdol's passage (1973: 1462, ll. 2-3), -otherwise followed by him to translate the word li as "bronze", -in this fanciful manner: "a compound made of gold, silver, zinc and iron cast together". The exclusion of the term from his source may have been deliberate, for the compound he describes could hardly have fitted his definition of the various types of li as "bronze" or "bell metal", due to the absence of tin from its list of ingredients.

\*\*\* Also dzhñe-kshim (Dagyal, 1977, I: 51). Perhaps both forms derive



Tucci, 1959: 181, n. 6, and Daggyab, 1977, I: 52), whose eight ingredients, "Gold, silver, copper, and white iron\*", and rock crystal, tin, lead and mercury, are known as 'artificial dzhai kshim' when ground and melted". The fact that the Jo-bo of Lhasa is said to be made of such an alloy (Tucci, 1959: 181-2 and Daggyab, 1977, I: 52) by Tibetan sources and the circumstance that no Western visitor has ever been able to have a proper look at the material of the image\*\*, which is heavily covered with clothes and bedecked with jewellery, should make us cautious, if not suspicious, with regard to the alloy as described by Tibetan writers. Neither li-khra nor dzhai kshim are mentioned in 'Jam-dpal-rdo-rje's comprehensive Materia Medica of Ayurveda. On the other hand, Klong-rdol gives us a clue by distinguishing "artificial" dzhai kshim from the "precious" dzhai kshim, which is "native copper dug out like gold underneath the earth\*\*\* (Klong-rdol,

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from the third one, zi-khyim (see above, p. 133, n. 2), and have been Sanskritized. None of the three terms is to be found in Indian literature on the subject. I therefore follow Tucci (1959: 180) who suggests a Chinese etymology: ch'ih chin. Cf. Mathew (1969: 145, 1048): "deep coloured gold; copper". Laufer (1918: 55) postulates a Sanskrit origin with a question mark. Naturally occurring metallic, or native, gold has a variable amount of copper or other elements admixed to it.

\* In the West this defines a kind of cast iron with a silicon content substantially lower than 1.5%. It shows a white fracture when freshly broken.

\*\* Landon (1905, II: 310) refers to the tradition that it was made by Viśvakarma in a mythical alloy where tin is not mentioned.

\*\*\* In view of the Tibetans' antipathy for underground mining it is likely that Klong-rdol did not have direct knowledge of it and refers here to mining in countries other than Tibet. Cf. below, pp. 137-8.

1973: 1462, ll. 1-2). Padma-dkar-po, who uses the spelling zi-khyim, tells us that it "appears like the gold on the banks of the Sin-dhu river; it is therefore called 'red gold'" and "it is recognized precisely by its red colour; it emits the light of a rainbow; when touched by acid, it shows the very bow of Indra" (Padma-dkar-po, 1973, I: 264, ll. 5-6). The confusion among native copper, iridescent li, and gold is echoed elsewhere in Tibetan literature (Rechung, 1973: 67): "The red coloured gold is found in the sands of the ocean. Bells made out of this gold produce excellent sound"\*. Even Dagyab's descriptions of statuary metals are of scant metallographic or archaeological interest for explaining the components of the alloys under consideration.

Although it may be assumed that Tibetan scholars writing on the subject of native dzhai kshim and li-khra (iridescent li) did not actually know their chemical composition and were merely following a current myth or a mixed academic tradition partially traceable to Chinese and Indian sources, it is reasonable to suggest that, in fact, they were speaking of copper, or, at least, copper compounds and alloys. In this

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\* Although copper may be found in oceanic clays and river silts, Rechung's statement is obviously mythical. The association of gold and copper is frequent in Indian and Chinese alchemical literature: cf., for example, Medhurst (quoted by Beal, Si-yu-ki, II: 174, n. 1), and the definition of the Chinese term for zi-khyim (see above, p. 142, n. 3). On the equation of gold and copper, see also 'Jam-dpal-rdo-rje (Chandra, ed., 1971: 40, ll. 3-4). Gold exists in association with most copper and lead deposits, though usually in extremely small quantities. Gold and copper also occur in pyrite (fool's gold) in the metallic form of minute inclusions dispersed within the crystals or as a thin film along the cleavage planes. Aureous pyrite may be an important source of gold, and a considerable quantity of copper is obtained from certain pyrites. Gold tellurides are bronze-yellow.

respect, it is quite interesting to note that there is an important copper ore, bornite or erubescite ( $\text{Cu}_5\text{FeS}_4$ )\* which, on account of its peculiar colour and iridescence, is known as 'peacock ore', 'purple copper ore', 'variegated copper ore', and 'horseflesh ore'. The colour of a freshly cut surface of bornite is coppery, but in moist air this rapidly tarnishes to iridescent blue and red colours. "It occurs in several parts of India" Holland\*\* in Rāy, 1902, I: 76).

Holland does not tell us in which parts of India that copper-iron sulphide is to be found. However, the presence of sulphur in some of the copper objects found at Taxila was noticed by the chemist Ullah (in Marshall, 1951, II: 570).

In Padma-dkar-po's description of the statuary alloys used in western Tibet in the XIth century (Padma-dkar-po, 1973, I: 301, l. 6)\*\*\*, as well as in the corresponding passage from the anonymous text translated by Tucci (1959: 186), "red copper" is equated with "zi-khyim". In the same context, Dagab defines red li as "natural copper", probably following 'Jig-med-gling-pa's gTam-tshogs theg-pa'i rgya-mtsho-las sku-gsung thugs-rten rnams-kyi sku-rgyu ngos-'dzin etc. (Dagab, 1977, I: 56). We have also seen how Klong-rdol explains that the "precious" variety of dzhai kshim is native copper. Even Das comes very close to Klong-rdol's definition of nor-bu

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\* Or:  $\text{Cu}_3\text{FeS}_3$ .

\*\* Of the Geological Survey of India.

\*\*\* See above, p.126.

dzhai kshim as native copper by noticing that "images of the Buddha and Bodhisattva made of pure copper are called nor-bu dshaiksim..." (Das, 1976 repr.: 1090). All these facts point strongly to the suggestion that native copper, zi-khyim and red li are indeed one and the same thing. In connection with the use of those three terms to define one particular western Tibetan statuary metal, I must draw attention to the existence of a native copper of a very high degree of purity in the Zanskar valley, thus in direct proximity to western Tibet, as reported by the chemist Ullah (in Marshall, 1951, II: 570). The analysis of a specimen of Zanskar copper made by Ullah gave: Cu 99.48; Fe 0.081; Insol. (SiO, etc.) 0.34%. It is possible that a similar kind of native copper of very great purity (zi-khyim) was used by kings of western Tibet for casting the images mentioned by Padma-dkar-po, by the anonymous text studied by Tucci, and by Dagyal's source, and that it was also used in alloy with zinc to cast at least some of the early brass images from western Tibet.

Whatever copper compound it may be, we know from Padma-dkar-po that zi-khyim was used in Tibetan statuary at least from the time of Srong-btsan-sgam-po (Padma-dkar-po, 1973, I: 300, l. 3), along with "pure" red and white li for composite inlaid metalwork\* in statuary.

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\* The expression "sho-bsgrigs" has been translated (Dagyal, 1975: 55, 57) as "square patches" and "square pieces (...)" like the patches of a beggar's garment". Some Tibetan brass statues are inlaid with copper and silver square patches of metal on the garment of the main figure, as is illustrated, for example, by a XVIIIth century brass Ṣaḍaḡṣarī from Lhasa, now at the British Museum (Reg. No. 1905.5-19.7).

### Zinc

Zinc (Tib.: ti-tsha), like tin, is not used as a statutory metal on its own, but always in alloy with copper. The history of zinc metallurgy is dominated by the fact that its oxide is not reduced by carbon below the boiling point of the metal: without special precautions, zinc ore heated to boiling point (above 906 °C) simply evaporates into the atmosphere. It was not until 1738 that William Champion obtained patent protection for a furnace fitted with an external condenser for the production of metallic zinc. It is not known whether Champion received his knowledge directly or indirectly from the East: according to Needham (1974: 213 and 211, table 98) zinc coins with 98.5% zinc were minted from the time of the Ming emperor Yung-lo (1403-1424); and Rāy provides us with sufficient literary evidence to conjecture that zinc had been isolated by Indian alchemists from at least the XIIth century\*.

The problem of tackling the time and place of the recognition and production of metallic zinc is directly connected with the manufacture of brass: until zinc was isolated and produced on an industrial scale, brass was manufactured by adding zinc ore (calamine) to melted copper, which would combine with the zinc metal in statu nascendi. Champion's and Werner's experiments showed that brass manufactured with

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\* In section VII, vv. 37-38, of the Rasarnava, which "is believed to be a Tantric work of the 12th century A.D." (Rāy, ed., 1956: 119), it is stated that calamine mixed with various ingredients and "roasted in a covered crucible, yields an essence of the appearance of tin; of this there is no doubt." (Rāy, 1956: 138).



this method could contain no more than 28% zinc. In other words, copper could not absorb more than 28% zinc in the manufacture of brass by the cementation process or "calamine method". A zinc percentage above 30% is a sure indication that the brass in question has been obtained from metallic zinc.

This circumstance is important, for ascertaining the period and area of the first production of zinc metal would help to establish a terminus post quem for those brass images with more than 30% zinc in the alloy. Conversely, a dated image with a zinc percentage exceeding 30% would cast more light on the history of the metallurgy of zinc. Since metallurgical analysis reveals that brass was used traditionally in northern Indian and Kashmiri statuary and was adopted from at least the XIth century in western Tibet for casting images, it may be useful to look for historical evidence of the production of zinc and brass not only towards India, but also towards the "brass country" (Needham, 1974, V/2: 220), Iran, with which Tibetans traded from at least the VIIth century.

During his stay in Iran, Marco Polo (1254-1325) witnessed the process of making "tuzia" (tutty\*, impure zinc oxide) from an ore which he describes as andànico\*\* and which we can

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\* Tūtiyā is the Middle Persian word for calamine, "which spread into Arabic and most Western languages" (Needham, 1974, V/2: 203).

\*\* For the term andànico, cf. Olivieri (ed., in Milione, Bari, 1912: 28 and 34). The same word appears also in Steiner (ed., Cecco Angiolieri, Il Canzoniere, Torino, 1928, comp. No. 105, v. 2). Cecco Angiolieri (1260-1311/13) uses the term in connection with the word "steel". I am indebted to Dr. Alberto Scaglia for the above references. From Marco Polo's description of the process, I should think that the translation of andànico as "zinc carbonate" or "zinc ore" is more appropriate than the Italian dictionary current definitions of it as "very hard metal, akin to iron and steel", for I do not regard the leading Italian comic poet of the Middle Ages as

reasonably assume was calamine: "They take the crude ore from a vein that is known to yield such as is fit for the purpose, and put it into a heated furnace. Over the furnace they place an iron grating formed of small bars set close together. The smoke of vapour ascending from the ore in burning attaches itself to the bars, and as it cools it becomes hard. This is the tutty; whilst the gross and heavy part, which does not ascend, but remains as a cinder in the furnace, becomes the spodium." (Masfield, 1936 repr.: 71). In his Cosmography (c. 1200) the Persian Al Kazvini describes the scraping of tutty from the sides of the furnace (Dawkins, 1950: 5). Again, Polo mentions "a mountain where the mines

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an authority in mineralogy. On the same process, see the reference given by Craddock (1979: 69. Cf. also Forbes, 1964, VIII: 265 ff.) Zinc oxide has a pigmentary strength somewhat superior to white lead, and, having the added advantage of being non-poisonous, is used in cosmetics. Polo says that "excellent collyrium" was made from the tutty by the inhabitants of Gobiam (Cobinan, now Kuh-Banan. Cf. Ponchirolì, ed., 1979: 31). Ponchirolì believes that andànico stands for ferrum indianicum, "Indian iron" and translates it as "antimony" in the "Glossary" to his edition of the XIVth century version of Millione known as "ottimo". That is the most authoritative Italian manuscript among the ancient Tuscan translations of Polo's book and was written not later than 1309, a few years after the Franco-Italian original had been dictated to Rustichello da Pisa by Marco Polo himself, in 1298-9. Ponchirolì's suggestion of equating the term andànico with "antimony" is inconsistent with the smelting process described by Marco Polo, and with the terms used in the early XIVth century "ottimo" version, tuzia and apodio, which refers to zinc oxide and the residuum of zinc ore smelting respectively, as is clearly explained in the Glossary of Ponchirolì's own edition (1979: 239 and 240).

produce steel and also zinc" in the district of "Chingitalas"\*, in Turkestan: zinc deposits have been located in the Khotan district, and reference found "in sixth century texts" as well as "archaeological finds at Kucha in Khotan show the way" by which knowledge of brass-making with zinc ore "penetrated from Persia" (Forbes, 1971, VIII: 281). It is quite significant that Needham should conclude his section on "The origins of zinc" (Needham, 1974, V/2: 212-20) by stating that Chinese mentions of "brass as a Persian export would point to the Iranian culture-area as the place where we ought to look, but unfortunately the early history of science and technology in that region is still (...) poorly documented (...) All in all, nevertheless, we are disposed to favour the view that brass-making began in the Persian culture-area and spread both west to Europe and east to China" (Needham, 1974, V/2: 220 and n. c.). In any case, it seems that the recognition and production of metallic zinc had started in India by the

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\* Ponchirolì (ed., 1979: 49). Cf. Masfield (1936 repr.: 108-9). Amongst the objects from East Turkestan analyzed by Werner, there is one from Ko-cho (Turfan oasis) with 31% zinc (Werner, 1972: 190-1, No. 24). If its dating is correct, it would seem that the manufacture of metallic zinc in that area began in the VIII/IXth centuries, since a zinc percentage in excess of twenty-eight is evidence of the use of the complicated method to extract zinc from its ore by means of an external condenser.

XIIIth\* and in China by the XVth century (cf. Needham, 1974, V/2: 213 and 211, table 98).

In 1597, Libavius (c. 1545-1616) received from Holland Indian zinc, which he called "Indian or Malabar lead" or "Malabar\*\*tin". He was uncertain what it was, but ancient lead-zinc deposits "which according to the information of Carus must have already been exploited around 1382" (Werner, 1972: 127) exist near Jawar (or Zawar), "15 miles due south of Udaipur, Rajasthan" (Brown and Dey, 1955: 163; cf. Werner, 1972: 161-2). There are remains of zinc furnaces at Sojat in Jodhpur. The zinc mines at Jawar were active through the XVIIIth century until 1812. According to Somerlatte, "very many small clay retorts are to be found in the ruins of Zawar, which may possibly have been used for zinc production in ancient times" (Werner, 1972: 127). Indeed, it has been suggested that the term "calamine" may derive from "its place of exportation, Calamina, at the mouth of the Indus" (Beal, Si-yu-ki, II: 174, n. 103). Small zinc deposits exist also in Kashmir.

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\* Cf. Forbes (1971, VIII: 281): "Though the value of the old Indian alchemists and their modern commentators is very doubtful it seems that zinc was prepared by Indian chemists since the twelfth century, but that this remained a laboratory experiment and was never applied to industrial production. This zinc or 'the essence of tin' as it is sometimes called was prepared by distilling calamine with organic substances in an apparatus suitable for destillatio per descensum, where a substance could be heated in an upper flask and the drippings could be collected in a lower one."

\*\* This corresponds to Marco Polo's "Melibar" (Ponchirolì, ed., 1979: 194-5), whereas Polo's "Minibar" and "Mabar" (Maabar) refer to the Coromandel Coast, present day coastal districts of northern Tamilnadu and southern Andhra Pradesh, from Cape Calemere northward to the mouth of the Krishna river. Polo's "Melibar, to which Libavius's "Malabar" corresponds, refers to the coastal districts of Goa, Karnataka and Kerala.

The following details of the extraction of metallic zinc from calamine are to be found in the Rasaratnasamuccaya as translated by Rāy (1956: 171): "Rub calamine with turmeric, the chebulic myrobalans, resin, the salts, soot, borax, and one fourth of its weight of Semicarpus anacardium, and the acid juices. Smear the inside of a tubular crucible with the above mixture and dry it in the sun and close its mouth with another inverted over it, and apply heat; when the flame issuing from the molten calamine changes from blue to white, the crucible is caught hold of by means of a pair of tongs and its mouth held downwards and it is thrown on the ground, care being taken not to break its tubular end. The essence possessing the lustre of tin, which is dropped, is collected for use" (Book II, vv. 157-161). The treatise, which starts with a Buddhist invocation, and is attributed by Rāy and Kala to "about 1300 A.D."\* merely borrowed the description of calamine and the couplets concerning the extraction of zinc almost word for word from the Rasaparakāśa-sudhākara, a comprehensive work by Yasodharā who, according to Rāy, lived in the XIIIth century and who, amongst his authorities, mentions Nāgārjuna\*\*. It is interesting to note

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\* Rāy (1903, I: 223). On the extraction of zinc from calamine cf. also the XIIth century ms. Rasarnava, in Rāy (1909: 71).

\*\* Cf. Rāy (ed., 1956: 122). Rāy (1909: lvii) used a copy of the ms. preserved in the Runbir Library, Kashmir, of which the "readings are on the whole accurate" (*ibid.*, footnote). A fuller discussion of the use of metallic zinc in medieval India is contained in vol. I, pp. 156 ff., where Rāy concludes: "In the medical Lexicon ascribed to king Madanapala and written about the year 1374 A.D., zinc is (...) distinctly recognised as a metal under the designation of Jasada". The extraction of zinc is also mentioned in the XIIth century Rasarnava, see above, p. 147, n. 1).



that later on, in the XVth century, perhaps in connection with the Muslim conquest, alchemy had become so neglected in India that one alchemist, Govindācārya, declared that for the knowledge of certain processes he was indebted to the Buddhists of Tibet\*. This circumstance could be confirmed by the fact that Tibetan metal statuary was then at a peak. Indeed, of the two Tibetan brass statues cast with metallic zinc\*\* analyzed by the British Museum Research Laboratory, one is attributed to the XVth and the other to the XVth-XVIIth centuries. If their dating is correct, it may be speculated that by the XVth century Tibetans had knowledge of the need of an external condenser for the extraction of metallic zinc, whether they derived it from Iran, from Indian alchemical treatises or from the Chinese. However, it is more likely that they imported the metal already smelted either unalloyed, or alloyed with copper, as brass.

The presence of zinc deposits in Tibet was reported by investigation teams of the Chinese Academy of Science after 1959 and zinc oxide is mentioned by 'Jam-dpal-rdo-rje as ti-tsha dkar-po ("white zinc") in his description of brass manufacture (Chandra, ed., 1971: 43). In the same Materia Medica, 'Jam-dpal-rdo-rje describes metallic zinc in the following terms: "As for zinc, it is blue\*\*\* and is like the

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\* Rāy (1909: lxvii).

\*\* Maitreya (Reg. No. 1959.10.16.2.) and the seated Lama (Reg. No. 1979.7.26.1.) show zinc proportions higher than 30% (see above, p. 120) and point to the use of metallic zinc for the manufacture of their brass alloys.

\*\*\* Freshly-cast zinc has a bright silver-blue surface.

Tibetan silver which appears from both red and green stones. If you rub it with fodder barley it produces a sharp sound. If you break it its edge is like cong-zhi\*. If it is mixed with copper it turns into brass!\*\*. Zinc ores, probably sphalerite and calamine of various colours, are described under the title of "Yellow zinc"\*\*\*, and associated with lead and silver. The ophthalmic use of tutty from the melting of the metal is acknowledged by 'Jam-dpal-rdo-rje. He also describes the ores used to make brass: "The one having blue-whitish

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\* 'Jam-dpal-rdo-rje (Chandra, ed., 1971: 44). Zinc is again mentioned for the making of brass in folios 43 and 57. Writing in 1730, Della Penna (Markham, 1879: 317; cf. Giorgi, 1762: 456) noted that a "mineral, of a white colour, like tin, which is called tikzà" was worked by Tibetans "into a sort of brass by being mixed with copper.". As we know (see above, p. 147) ti-tsha is the Tibetan word for zinc.

\*\* Also: "cung-zho". This word has been inadequately translated as "a kind of white stone" (Jäschke, 1972 repr.: 141), "a medicinal white stone alleged to cure diarrhoea" (Das, 1976: 383), and "calcite" (Hübotter, 1957: 125). 'Jam-dpal-rdo-rje (Chandra, ed., 1971: 46) lists five types of cong-zhi, with colours varying from that of rock-salt, to white, bright purple, yellow and even blue and black, and says that the first two are found in hot springs. It may be suggested that the word indicates a range of minerals, from calcium carbonate (calcite, calcareous spar) to sodium carbonate. The modes of occurrence of calcite ( $\text{Ca CO}_3$ ) are exceedingly varied. It occurs as limestone as well as marble. Calcite is a common product of hydrothermal solutions and is appreciably soluble in ground water containing organic acids and dissolved carbon dioxide. Its solution mechanism is responsible for the wide distribution of massive banded deposits of travertine around springs and spongy calcareous tufa in ordinary streams and springs.

\*\*\* 'Jam-dpal-rdo-rje (Chandra, ed., 1971: 58). Sphalerite, a sulphide of zinc, is the chief ore of that metal. The colour varies widely. Generally, it is a shade of reddish-brown to black, but some sphalerite is green, yellow or, in crystals of high purity, almost colourless, transparent to translucent. Calamine is usually coloured green, blue, yellow, grey or brown by impurities (cf. Forbes, 1964: 261).

lustre or the cloudy one, with specks\* is like a-rag. It has hair-clefts. After having been finely ground, it is thrown into molten copper and there appears light-coloured brass. Brass is not produced (from the ore alone)" (Chandra, ed., 1971: 57). In that passage, not only is calamine (smithsonite), sometimes blue but white when pure, recognized as zinc ore, but the cementation process is mentioned, too.

The presence of zinc ores and mines in Nepal was reported by Hamilton (1819: 76, 94, 195, 264, 272) and Hodgson (1874: 109): "Nepal produces plenty of zinc, but no skill to work the mines". However, "little is known of the deposits near Tiplin in Nepal" (Brown and Dey, 1955: 164)\*\*. Hodgson specifies that there are lead and "Zinc mines in Nepal, but no skills to work them profitably. A deal of each is imported from the plains, and also of Tin, with which last, and with the Zinc got from us, the Nepalese mix their own Copper, and make a great variety of mixed metals in a superior style." (Hodgson, 1874: 119). In fact, Kirkpatrick (1975 repr.: 209) mentions zinc in his list of principal commodities exported by the East India Company to Nepal either for use in that country or for the Tibetan market in the late XVIIIth century, and the circumstance is not surprising when we know that by then

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\* Tib.: skya-sob, not in the dictionaries, as translated by P. Wangyal.

\*\* Ullah follows Latouche in mentioning that "copper ore associated with that of zinc is common in Sikkim" (Marshall, 1951, I: 571).

Europe had started to produce metallic zinc as a separate entity in commercial quantities.

### Brass:

Brass\* is described in a number of Indian and Tibetan texts for its external properties. The different proportions of the basic copper-zinc melt form alloys of varying ductility and brittleness and give a remarkable series of natural colours, of which the most notable are those with about 80% copper, since they simulate gold. Klong-rdol distinguishes various types of brass: "'female brass' and 'stone brass', which are yellow, (and) have a good ductility; 'male brass' is the brass which makes the 'light yellow' type of brass and is poor." (Klong-rdol, 1973: 1462, ll. 4-5). 'Jam-dpal-rdo-rje tells us that "red, yellow and bright types of brass come from China, one or three parts of copper having been admixed to (one of) zinc. Also, the white one is firmer than silver." (Chandra, ed., 1971: 43), and he describes its therapeutical properties. Three out of six in the selection of metal images from Tibet analyzed by the British Museum Research Laboratory had constant percentages of 72-77 of copper and 20-25 of zinc: one had 72-77% copper and 17-22% zinc with lead in excess of 3%, and a fifth one had a zinc content in excess of 30% (see above, p. 120). The composition of Indian brass ("yellow metal") exported into Nepal seems to

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\* Tib.: rag, ra-gan, and some types of li.

have a higher zinc percentage: 62% copper and 36% zinc (Brown and Dey, 1955: 150). The late Nepalese brass image analyzed by Bhowmik reflects similar percentages: 60.5% copper and 35.3% zinc\*.

Padma-dkar-po mentions that <sup>in Northern India images were made</sup> ~~brass was mixed with white~~ <sup>of white li, brass\*\*, and, being mixed, it was like the yellow</sup> ~~li to obtain the light yellow type of brass in northern~~ <sup>type of brass.</sup> ~~India\*\*, and that~~ <sup>R</sup> regarding the materials of the "new" Chinese images, by which he means statues cast from the advent of the Ming dynasty (1368), "those which are known as sku-rim-ma and appear in Chinese brass or in light yellow brass are superior on inspection"\*\*\*. In Tibet itself, he tells us that the images of the period of the first religious king Srong-btsan-sgam-po (609-649), when made from brass or khro are similar (Padma-dkar-po, 1973, I: 304, l. 1), and that composite ones, made with different metals (zangs-thang-ma), during

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*note*

\* Bhowmik (1964: 395). It is interesting to ~~notice~~ <sup>note</sup> how, though reporting the same analysis, Labriffe (1973, I: 191) seems to overlook the absence of tin from the alloy and prefers to speak of bronze for an alloy of copper and zinc or brass and zinc.

\*\* Padma-dkar-po (1973, I: 300, l. 1). In view of the above considerations on red and white li and of the composition of northern Indian alloys, I suspect that Padma-dkar-po is ~~again speaking of brass.~~ <sup>here equating white li to</sup>

\*\*\* Padma-dkar-po (1973, I: 304, ll. 5-6). Cf. Tucci (1959: 187). Dagyab (1977, I: 55) suggests that such statues were probably used in the public 'ceremonial' act of worship (sku-rim) offered by the emperor Yung-lo (1403-1424). Cf. also Karmay (1975: 95-6).



the reign of Khri(-gtsug-lde-brtsan) Ral(-pa-can , 815-836) "were not as good as those made of brass"\*. It is possible that during the period of the early Tibetan kings brass was imported from Iran. Intercourse between Tibet and Iran at that time is confirmed by a number of historical sources, and it has been suggested that parts of the costumes worn by the early Tibetan kings and their ministers were of Iranian origin (cf. Karmay, 1975: 15). Iranian influence on Tibet was then manifest in medicine and, to some extent, in the arts (cf. below, p. 178). From the XIth century onwards, brass was consistently used in Tibetan statuary, though often confused with bronze, a circumstance to which the next section is devoted.

The first Tibetan artists known to have used brass and mentioned as "great in the art of sculpting images in Tibet", were Padma-mkhar-pa and *Sle'u-chung* (Kong-sprul, in Chandra, ed., 1970: 572, l. 5). They were contemporaries of Tsong-kha-pa (1357-1419. See Dagyal, 1977, I: 38-9) and were probably active in the early XVth century. From Dagyal (1977, I: 56) we learn that the statues made by *Sle'u-chung* closely resembled the "new" Chinese (Ming, 1368-1644) ones, a remark which can be traced also to the anonymous author of the text studied by Tucci, who tells us that the images made of brass or the

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\* Padma-dkar-po (1973, I: 301, l. 5). On zangs-thang-ma, see also Tucci (1959: 181, n. 6) and Dagyal (1977, I: 52, 57).



69A. Sa-skya lama. Tibet. XVth century. Fire-gilded copper alloy. 5 in. (12.5 cm.).

gilded images\* by Padma-mkhar-pa and Sle'u-chung and other clever artists may be mistaken for the Chinese ones (Tucci, 1959: 186). Both Tucci's and Daggyab's sources describe the style specific to Sle'u-chung, and mention that the "cushion-seat was formed from a double row of lotus flowers completely encircling the seat"(Daggyab, 1977, I: 56), a characteristic to be found in a gilded seated Sa-skyia lama of the Aniko 69A Collection (No. 129), which can be attributed, also in view of stylistic and historical evidence\*\*, to the Yung-lo period. Brass continued to be widely used in Tibetan statuary until the present century and Turner was well aware of the types of metals used in the workshops and in the collection of images he could study in a "gallery" of bKra-shis-lhun-po's monastery. After mentioning the manufacture of a brass portrait of a deceased dge-slong he goes on to say (1800: 274-5): "Some of those images were composed of that metallic mixture, which

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\* Gilded brass images are frequently encountered in Sino-Tibetan statuary of the XVth century onwards (see above, p. 121, Cat. No. 136). Other examples may be found at the British Museum and the Victoria and Albert Museum.

\*\* This kind of Sa-skyia portraiture found its climax before the rise of the dGe-lugs-pa power in Tibet, at a time when the Sa-skyia enjoyed the patronage of the Mongols, and continued during the reign of the emperor Yung-lo, only to diminish from the triumph of the Yellow Hats in the XVIIth century. Describing the "new" Chinese statues, Padma-dkar-po specifies that "the two corollas (kha-sbyar) of the lotus divide one above the other and adhere at the front and back" of the base (Padma-dkar-po, 1973m I:304, l. 4). Karmay (1975: 95) notices that "In many respects, Padma dkar-po's account, although describing Ming bronzes in general, concords with" her description of the Yung-lo bronzes in particular.

in appearance resembles Wedgewood's black ware, but the greater part were of brass or copper gilt." He concludes: "The manufacture of images, is an art for which they are famous in this country. Theshoo Lomboo has an extensive board of works, established under the direction of the monastery, and constantly employed in this manufacture." Some of the images shown to Turner had been brought from China, Lhasa and Nepal. More than a century later, also Bell could visit the "Tashi Lama's metal factory" where he found "some thirty artisans at work. They were engaged in turning out five hundred images" of Amitāyus "for distribution to various monasteries throughout Tibet." (Bell, 1927: 86). It is not impossible that amongst the artists of the Pan-chen Lama there may have been some Newars from the one hundred and fifty Newar families who lived in Shigatse (cf. Hedin, 1910, I: 374 ). Brass was imported into central Tibet from Nepal (cf. Sandberg, 1904: 160), whereas Khams was supplied by Muslim merchants bringing in brassware from Kansu (Teichman, 1922: 86).

Brass must have been known and used for various purposes in Nepal from a very early date. During the administrative organization of Tibet under Khri-srong-lde'u-brtsan (742-797), one of the four kings regarded as tributary was that of Nepal, with the appellation of "king of brass" (Stein, 1962: 20, from a Tibetan chronicle written between 1545 and 1565). The preference for copper in early Newar statuary may be explained by its relative abundance until the XIXth century, by its prestige, and by its advantage for mercury-gilding. The

production of brass statuary seems to have flourished particularly after the Gorkha conquest, perhaps because of economic reasons following the diminished wealth of the Buddhist monasteries and lack of royal patronage, but also because of the availability of zinc from British India coupled with the progressive exhaustion of the local copper mines. Hodgson mentions its manufacture with zinc imported from India, to the extent that, in his day, not only copper pots, but also brass pots were exported from Nepal (Hodgson, 1972 repr.: 118-9; cf. Regmi, 1971: 20). The increased use of brass in XIXth and XXth century Newar statuary is witnessed by a number of dated images of deities and devotees.

Though more difficult to chase than pure copper, brass is much easier to cast, owing to its lower melting point. The colour and lustre of brass surfaces is an alternative\*to the very expensive mercury gilding, which is usually associated in Nepal with images cast in copper. Gilded brass is rare in Newar statuary, for the presence of zinc and lead in the brass alloys\*\* makes fire-gilding impossible without previous treatment of the metal surface. Nowadays, Nepalese brass is

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\* In Western metallurgy the most notable copper-zinc alloys are those with about 80% copper, which simulate gold (Dutch metal, Mannheim gold, pinchbeck, etc.). According to my informant J. M. Sakya, first-born in a family of metal-casters which owns one of the largest workshops in Pātan, the brass used for casting images in Nepal is an alloy with four parts of copper and one of zinc. It has excellent cold-working properties, for its extreme ductility and ease of forming and drawing.

\*\* A very small amount of lead is usually introduced, probably to temper the metal. On the problems raised by fire-gilding leaded-brass alloys see ch. IV, pp. 227-8.



imported from India in the form of rods and sheets, the first sheet having been rolled in India in 1930\*. Scrap domestic brass hardware, such as broken plates and various pots, provides another source of the metal used in casting. The colours in the same casting may vary from that of pure copper to golden yellow: because of the relatively primitive casting technology, zinc and copper do not always mix evenly. Brass is susceptible of a fine polish, but tarnishes on exposure to the air. As is clear from comparing the various examples analyzed by the Research Laboratory of the British Museum, colour and oxidization vary irrespective of copper or zinc percentages or of the age of an image. Therefore, dating statues from the observation of the condition of the metal surface cannot be regarded as scientifically serious. Moreover, XXth century brass images are sometimes given a black patina by heat treatment, or a verdigris surface by various acid treatments to give them an appearance of antiquity.

If we compare the figures of the metal percentages given on pages 120, 121-2 and 124 with the historical data mentioned above, we may conclude that brass and not bronze has always been the copper alloy par excellence in Tibetan and Himalayan statuary and that copper has been constantly preferred to brass for gilding purposes\*\* from at least the

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\* Brown and Dey (1955: 150). The metal market in Kathmandu is controlled by Indian dealers.

\*\* Cf. Oddy's "Report on the Examination of Gilded Bronzes from the Department of Indian Antiquities", unpublished paper.

XIth century until the 1970s. Though Tibetan and Himalayan statuary previous to the XIth century is hardly datable because of the lack of inscriptions and because "copying" has been a permanent feature of its tradition, it is safe to assume that the composition of the earliest Tibetan and Himalayan metal images, perhaps from as early as the VIIth century and certainly from the XIth century A.D., followed the same metallographic pattern already revealed in the alloys of the contemporary production in north-western and northern India. What is even more important for the purpose of my study is that, in any case, the use of brass and copper by XXth century Himalayan sculptors falls perfectly into a tradition which is at least nine hundred years old.

#### Tin

Like zinc and lead, tin (Tib.: gsha'-dkar) has been imported into Nepal since at least the XVIIIth century (Kirkpatrick, 1975 repr.: 209 and Hodgson, 1972 repr.: 109). The general absence of tin ores from the Himālayas, India and Tibet partially accounts for the rarity of its use in Newar and Tibetan statuary. Like lead and zinc, it is used only in alloy with copper. 'Jam-dpal-rdo-rje's mention of average and poor quality Tibetan tin is not supported by geological evidence. He also regards "'upper', Indian,"\* and

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\* Cf. Rāy (1956: 57): "silver, tin and mercury ores (...) are till now not known to occur in India". The "'upper' Indian" tin mentioned by 'Jam-dpal-rdo-rje may have been Burmese: as I cannot find any trace of Burma being regarded as a separate geographical entity in Tibetan literature, I assume that Tibetans may have assimilated Burma to India. Since in the XIXth century, the British felt justified in regarding Burma

"lower", Chinese, "tin as the best": "upper" and "lower" as used by Tibetans in a geographical context mean respectively "upstream" and "downstream" and here, as is often the case, they stand for "West" and "East", namely Western Asia and

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as a province of the Indian Empire, it is difficult to expect that Tibetans would have been more sensitive to the subtleties of geographical distinctions in the Indian subcontinent. It may be interesting to note that, in a similar way, Arab writers extend their geographical notion of India to Burma and, for example, "Sulaiman and Al-Mas' ūdī definitely mention gold and silver as being found in the kingdom of Rahma" (or Ruhmi, "which is generally identified with the Pāla kingdom". We know that "these metals are found not in Bengal but in Lower Burma. It would appear that the Arab narratives included both Lower Burma and Bengal in the kingdom of Rahma." (Gopal, 1965: 151-2).

\* Although no one would question the presence of important tin ores in China, the picture is quite different for India, a country which has traditionally imported tin ores, at least since the IIIrd-IIInd centuries B.C.: "the oxide of tin, cassiterite, has been found at a number of places in the Hazaribagh, Ranchi and Gaya districts of Bihar, but none of the occurrences appear to possess economic importance, though as long ago as 1849 tin ore was being smelted in village iron furnaces at Purgo, in the Palganj estate near Parasnath" (Brown and Dey, 1955: 167). "Outside Bihar, cassiterite has been found, but again only in insignificant amounts (...). There are no recorded instances of the occurrence of tin ore in Pakistan" (Brown and Dey, 1955: 168). Discussing the use of metals at Taxila, Marshall (1951, II: 563) acknowledges that "even if these deposits were worked in ancient days (which is uncertain), they would not have been adequate to meet the needs of the country.". Marshall infers that tin was then imported from the West, to which may be added Finch's observation (1599), as reported by Brown and Dey (1955: 168), that Burmese tin served all India. A detailed study of the history of Indian statuary metals is outside the scope of this work and I am satisfied with bringing circumstantial evidence to my suggestion that bronze was not the obvious alloy to use for statuary purposes in India, owing to its lack of tin. Significantly, Marshall (1951, II: 566) states that the Sanskrit Kastira derives from the Greek word for tin, kassiteros, and "not vice versa". Indeed, we understand from Pliny that the coastal districts of western and southern India "possessed neither bronze (aes) nor lead, but exchanged precious stones and pearls for them." (Marshall, 1951, II: 564 and 566).

China. Tin is apparently not even found in Eastern Tibet, "for no mention of it is ever made" (Coales, 1919: 246).

The analytical data provided on pages 120, 121-2, 124 and 157 seem to point to the suggestion that tin was seldom used in Tibetan and Himalayan statuary alloys. The use of this metal is entirely connected with the discussion of bronze, to which the following section is devoted.

#### Bronze\*

Brass and bell metal are both mentioned in Book V of the late XIIIth century Rasaratnasamuccaya and the latter is described as being made by melting together eight parts of copper and two parts of tin (Rāy, 1903: 114). 'Jam-dpal-rdo-rje states that "upper" ("Western")\*\* tin from India was mixed to six and eight parts of copper to produce respectively red and white li, the only types of Tibetan bronze he positively describes in his section on li (Chandra, ed., 1971: 41), and whose compositions (87.14% and 88.89% copper) correspond to Western statuary bronze (80% and 90% copper). However, he mentions those two types of bronze only in connection with

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\* Tib.: 'khar-ba, mkhar-ba, some types of li and perhaps khro.

\*\* On "'upper', Indian" tin, see above, under Tin. It is not surprising to note that 'Jam-dpal-rdo-rje does not mention China in connection with the export of tin to Tibet. Bronze items were seldom manufactured in the country, being mostly imported from China and Mongolia (see below, p. 169).

the manufacture of various items, including musical instruments\*. The only two types of li which 'Jam-dpal-rdo-rje recognizes as being used specifically for statuary purposes are of foreign origin and he does not give us their composition: "As for Chinese li, which appears from the smelting of Khotanese ores, there are two: white li, of white brilliancy, slightly yellow; and red li, of red brilliancy, slightly yellow. The images of the gods are made with them" (Chandra, *ed.*, 1971: 41). Padma-dkar-po describes statuary white and red li in identical terms and according to him too, both were "obtained in the mountains of Khotan" (Padma-dkar-po, 1973, I: 295, l. 1). As for these two types of Chinese statuary li obtained from Khotanese ores, it is doubtful what Padma-dkar-po and 'Jam-dpal-rdo-rje had in mind. It is interesting to note, however, that copper occurs in the northern foothills of the Kunlun, between Yarkand and Khotan, and that zinc deposits have been located in the Khotan district, but no tin. Although the manufacture of bronze objects from East Turkestan is largely demonstrated by Werner's analyses (1972: 190-1, the same author (1972: 141) ventures to say that for the period from the XIIth to the XVIth century, the zinc content among the

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\* Klong-rdol's statement that both red and white li, as well as yellow li, iridescent li, and dark reddish-brown li, are used to make musical instruments confirms that for that purpose the alloys in use were actually bronze. On iridescent li, see above, pp. 144-5. In any case, neither the yellow nor the reddish-brown varieties of li are mentioned by him in connection with statuary purposes (Klong-rdol, 1973, *ha*: 1462, ll. 2-3).



objects of Chinese Turkestan and China analyzed "rises sharply to 30% Zn": indeed one standing goddess from Turfan "dated to the 8th century, yielded a zinc content of 27% Zn" (Werner, 1972: 139).

It has been suggested that white li is "an alloy of silver and bronze" (cf. Neven, 1975: 35, No. 67), although such a statement has not been supported by metallurgical evidence and is challenged by its accurate definition given here by 'Jam-dpal-rdo-rje. Padma-dkar-po's recurrent use of the term for various periods and schools of statuary and the rarity of images cast in any kind of "white" metal point to the suggestion that white li must have been some other kind of alloy. On the statistical evidence provided by the results of the <sup>a</sup>analyses discussed above, I should tend to suggest speculatively "brass" rather than any other alloy of silver\*.

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\* This suggestion is reinforced by the circumstance that Tibetan and Indian silver statuary is rare and that silver ores are virtually absent from Tibet and India. In his study of economic life in northern India between c. 700 and 1200 A.D., Gopal notices: "The general paucity and debasement of silver coins may be connected with the decrease in the amount of silver which India could receive. In those times before the discovery of America the chief source of silver was Central Asia. The rise of the Arab power under the vigorous impact of Islam and the political disturbances which resulted in Central Asia must have affected the trade relations between India and these parts of Asia, with the consequent decline of the quantity of silver come to India." (Gopal, 1965: 220-1). Rajput kings issued coins "composed of billon, a mixture of silver and copper. The ratio of the two metals in these coins varies so much that that the coins range from fairly good silver to merely pure copper. But the number of coins which can be classed as honest silver coins is limited indeed and most of the coins of these kings are to be branded as of highly debased silver or of billon" (Gopal, 1965: 220). This state of affairs does not encourage us to regard Padma-dkar-po's northern Indian statuary white li as silver. The central Asian areas referred to by Gopal obviously do not include Tibet, which was never conquered by Islam.

Obviously Tibetans were aware of the circumstance that brass is yellow and not white, and they do have their own word for "brass". As is clearly shown here, however, they conventionally used the adjectives "red" and "white" to describe alloys which, even accepting their definition as "bronze", do not appear as "red" or "white". Although those alloys are described as copper-tin alloys, it is very likely that Tibetans had little direct knowledge of the li metals they were talking about, which were, in practice, more often than not, brass.

It is unlikely that Padma-dkar-po and 'Jam-dpal-rdo-rje had first-hand knowledge of the components of the two statuary alloys whose exterior aspect they describe in identical terms, a circumstance which may be due to the fact that probably both white and red li were of foreign provenance. Since metallographic analysis and careful inspection of Tibetan and Himalayas metal images show that the vast majority are cast either in brass or copper - and the same goes for northern Indian and Kashmiri statuary, whose alloys are again often described by Padma-dkar-po in terms of li - we may conclude that Tibetan writers used the term "li" in the same loose and incorrect manner in which we use the term "bronze" when referring to objects actually made of copper or brass. It may thus be suggested that the terms "white" and "red" li used by Tibetan writers in connection with Tibetan and Indian statuary more often than not indicate in fact "brass" and "copper", which are indeed by and large the most common statuary metals used in the area with which we are concerned. The general confusion among Tibetans about the term "li" and

its composition could be explained by the fact that they were virtually unacquainted with the manufacture of bronze for statuary purposes and were rather out of their depth with that word which betrays suggestions of foreign origin. Bronze was imported in its prepared form from China, India and Nepal into Tibet for the manufacture of musical instruments, such as bells and cymbals. Hor was the best source of bronze products (Ronge, 1978: 146) and in Amdo Tibetans would receive bronze items from Peking and Dolonor (Ronge, 1978: 147). Obviously Tibetans would use bronze scraps, too, but it does not appear that they ever manufactured bronze, a fact which can be explained by the virtual absence of tin ores from Tibet. Also "the white alloy of tin used in Dege in metalwork is imported from China" (Coales, 1919: 245). These circumstances account for the Tibetans' somewhat vague use of the word li, which strongly contrasts with the relative precision of the words they use for copper, gold, silver, lead, tin, zinc, iron and, significantly, brass. This suggestion is strongly supported by the metallographic analysis of an Indo-Tibetan\* metal image of Pala-Sena style belonging to the British Museum (Reg. No. 1969.11.4.1., see p. 120) and inscribed:

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\* I use this adjective in connection with images made by Indian artists in Tibet or by Tibetans in Indian style. See above, p. 130, n. 1.

De-mo li-ma, "li object of the De-mo"\*. That statuette was cast in brass and no tin is detectable in the alloy. It is described by Beguin (1977: 70) as a northern Indian "replica of an original of the XIIth century" and included in a group of Tibetan images betraying very strong Indian stylistic features (Beguin, 1977: 11-12). It portrays Umā sitting on Śiva's left leg, with the latter caressing her chin. The donor at the bottom of the pedestal wears a seemingly Tibetan garment and chignon. In connection with the group of Indo-Tibetan images in which Béguin includes this statuette, it is quite interesting to report Padma-dkar-po's account of statuary in Tibet during the kingdom of mNga'-bdag-khri-ral (Ral-pa-can, 815-836). He explains that as for

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\* A brass Green Tārā studied by me at Messrs. Spink of London in 1979 and a brass White Tārā studied by me at Sotheby's in 1980 bear identical inscriptions. Karmay (1975: 30) mentions a standing Vajrasattva bearing the same inscription, in a private collection in London. I have never come across a "de-mo" type of li-ma in any of the Tibetan texts dealing with the subject. I am rather inclined to follow the suggestion that the inscription was the owner's mark. From Ferrari, we know that De-mo (Qutuqtu) was the name of three important regents of Tibet: "the first incarnate, an important figure in the history of Tibet, was regent for the VII Dalai-Lama from 1757 to 1777; the second was regent for the IX and X Dalai-Lama from 1810 to 1819; and the third was regent for the XIII Dalai-Lama from 1886 till he was in 1895 deposed and thrown into prison by the young Dalai-Lama, who took the government in his own hands.". Their residence was bsTan-rgyas-gling, the most important monastery in Lhasa, in the northern part of the city. In 1912 the monastery was destroyed by the Tibetan government because it had taken sides with the Chinese. Afterwards, the Post Office of Lhasa was installed on its premises. We know that at the time of Richardson's mandate in Tibet the De-mo lived in the gZhi-sde College in Lhasa. bsTan-rgyas-gling was apparently built by the regent of Tibet, which means later that 1642 (Ferrari, 1958: 93). It is possible that due to the vicissitudes of the De-mo and their seat, their collection of metal images started being scattered even before the Chinese occupation of Tibet in 1959. It may be suggested, as Béguin does, that these images are replicas of more ancient Pala and Sena statues, or else that they were actually made by Indian artists working in Tibet or by their Tibetan disciples during an earlier period (see below, p. 171).

"the images manufactured by Indian artists (in Tibet), their kind is similar to the images of Magadha, made out of white li (of the quality called) 'indisputable'.

As for the dissimilarities setting them at variance, their face is a little plump, their déhanchement has a great share of grace,

and the silver and copper openings of their eyes are perfect.

Zangs-thang-ma (images also) occur;

they are (with) copper lips and silver eyes."\*

The description given by Padma-dkar-po in the first four verses above fits remarkably well the group of images studied by Béguin, which are often inset with copper and silver. Is it possible that that kind of statuary was produced by Pala and Sena artists in Tibet perhaps as early as the IXth century and that the type of white li mentioned by Padma-dkar-po was in fact brass? The latter suggestion seems to be confirmed by the metallurgical analysis of the Umāmaheśvara mentioned above, and also by the circumstance that a Tibetan inscription was found inside the base of the XIth to XIIth century silver-inlaid brass Maitreya listed on p. 121 (Cat. No. 46). Furthermore, if, as Neven has implied, white li were to be understood as a kind of silver (cf. Neven, 1975: 35, No. 67)\*\*, there

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\* Padma-dkar-po (1973, I: 301, ll. 3-6). Padma-dkar-po explains that "those images which are made with white li for the body and red li for the garment are called zangs-thang-ma." (Padma-dkar-po, 1973, I: 295, l. 2). Cf. Tucci (1959: 181, n. 6) and Dagyab (1977, I: 52 and 57).

\*\* Elsewhere, Neven describes li-dkar as a "rarely encountered alloy, characterized by a whitish tint (dkar), differing from silver in its lack of oxidation" (Neven, 1975: 12). The term, however, is of very frequent occurrence in Tibetan literature describing Tibetan and Indian statuary alloys.

would have been little point in inlaying those statues with silver. Indeed, all the images belonging to this group appear to be cast in brass and copper and are inlaid with silver and copper, when cast in brass, and with silver, when cast in copper. The dating of these Indo-Tibetan metal statues should take into account also the following historical information:

i) According to dPa'-bo gTsug-lag-'phreng-ba, all the statues in 'U-shang-rdo (see ch. I, p. 4) "were modelled on the gods of Magadha, cast in white and red li and gilt with gold from the River Dzam-pu" (Karmay, 1975: 5). The temple on that site was erected by the Tibetan king Ral-pa-can during the IXth century.

ii) Kashmiri and Indian artists worked in Tibet at the time of Rin-chen-bzang-po and Atīśa (Xth and XIth centuries).

iii) During the first quarter of the Xth century Mahmud of Ghazni (971-1030) campaigned in north-western India, thus posing a threat to its Buddhist centres.

iv) During the XIth century important monasteries such as Sa-skyā (1073) were founded in western and central Tibet.

v) By the end of the XIIth century, the northern Indian kingdom of Magadha had been conquered (1194-1197) and all the great places of Buddhism in India destroyed by the Muslim onslaught.

All these circumstances point to the suggestion that Indian artists, whether indirectly or directly, as guests or refugees, played a significant role in the founding of a Tibetan brass and copper statuary tradition from the IXth to the XIIth century. It is possible that during the XIIIth century some



of them benefitted indirectly from the Mongol protection and patronage of the Sa-skya order and that statues like the British Museum Umāmaheśvara mentioned above should be assigned to that period. By that time, however, the influence of Newar sculpture was increasingly felt in the newly established Tibetan metal statuary tradition.

The fact that the term li has to be understood in a loose manner as merely indicating any copper alloy is again suggested by the several kinds of uses attributed by 'Jam-dpal-rdo-rje to the various types of li he describes in the same passage (Chandra, 1971: 41): after specifying that white li, slightly yellow, with white brilliancy, and red li, slightly yellow, of red brilliancy, both lis being from Khotanese \*\* ores, are used to manufacture metal images (which we know to be cast almost exclusively in copper and brass), he mentions "coloured li" (or "coloured lis") as the metal used for fashioning the metal rings for the grain mandals, (though copper is the metal more often employed for those), whereas he indicates "resonant" li as the alloy used for the manufacture of various musical instruments, such as cymbals\* (and which perhaps stands there for "bronze" or "bell metal"). For all these reasons, dictionary translations of the term li as "bell metal" or "bronze" and of li-ma as "a metallic compound containing more gold and silver with which images are generally made" (Das, 1976 repr.: 1212, from 'Jigs-rten

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\* It is interesting to note that "cymbals, and other musical instruments" are mentioned by Turner (1800: 381) amongst the items exported to Tibet from China.

\*\* Li is the Tibetan word for "Khotan".

lugs-kyi bstan-bcos) are either inadequate or fantastic\*.

mkhar-ba ( or 'khar-ba) is another term which has been variously translated as "bronze" and "bell metal". Klong-rdol (1973: 1462, ll. 5-6) says that, "apart from black khro\*\* *and which is* iron, the alloys (known as) 'thousand lotus', like silver,

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\* It may be mentioned here that outside Tibet, in east Turk-estan, a mixture of white and red (li?) was used to manufacture "dark khro-li" (Padma-dkar-po; 1973, I: 302, ll. 1-2), a term not to be found in 'Jam-dpal-rdo-rje's Materia Medica, but which could be translated as "bronze" if the bronze objects from that area analyzed by Werner did not belong mainly to a bracket of two centuries only (VIIth-IXth centuries) and come mostly from one site (cf. Werner, 1972: 190-2). On khro, see below.

\*\* Cf. Das (1976 repr.: 175): "The kind of bronze called khro-nag or dark bronze is also called lcags khro on account of the predominance of iron in the compound." The analyses reported above (pp. 120-122) exclude the likelihood of such an alloy being used for statuary purposes. Das never mentions tin - rather speaks of zinc - to justify his translation of mkhar-ba as "bronze". In fact, Klong-rdol seems to take great care to exclude khro from the various types of mkhar-ba (bronze) he mentions. If we had to follow Das's own explanations, we should suggest translating the term as "brass" rather than any kind of bronze, at least as far as khro-dkar is concerned (cf. Dagab, 1977I:50)! 'Jam-dpal-rdo-rje (1973: 44) qualifies khro-nag as "iron" and mentions that the Chinese one is used to make ploughshares and roasting pans (those used for parching barley), thus confirming that we are in the presence of an iron compound, not quite of "bronze". It is likely that, as in the case of zi-khyim, which is absent from 'Jam-dpal-rdo-rje's compilation - and probably of Chinese origin, too - Tibetans imported khro-nag and did not know its constituents, or that its manufacture was limited to eastern Tibet (Dagab, 1977I: 50). Even Das (1976 repr., I: 175) acknowledges that the alloy "is largely manufactured in China". Dagab's definition of khro-nag as "an alloy of iron and 'khar-ba" (1977I: 50) does not cast much light on the issue, for his failure to define 'khar-ba with any certainty and, generally to provide any kind of metallurgical evidence in his study of Tibetan statuary metals.

'poor', like mkhar-ba, 'red paradise', like copper, 'clear white', like white iron, are called mkhar-ba. Lately, all these were made with dong-rtse ('copper coins', cf. Laufer, 1918: 106). After being perforated in the middle it is easy to carry them. It is reckoned that China and India enjoy of extensive trading currency (of them)". The fact that copper enters into the composition of mkhar-ba alloys is confirmed by 'Jam-dpal-rdo-rje (Chandra, 1971: 43), who by the same token gives us a positive definition of "bronze": "As for 'khar-ba, by mixing seven parts of copper to (one of) tin from Khams and (one of) tin from 'Jus (in eastern Tibet\*; cf. Daggyab, 1977, I: 50), it turns into whitish-red 'khar, which is used to make mirrors and gongs."

That proportion of tin to copper corresponds to the mean value of tin percentages, for example, in the Chinese mirrors analyzed by Chikashige (1920: 919), or put forward by Craddock (1979: 77) in his discussion of khār sīnī\*\* ("Chinese bronze"), an alloy used in Islamic metalwork: they also confirm that Craddock's interpretation of the term is correct, and hint to the possibility that "khār sīnī" was an alloy manufactured not only in China, but also in eastern

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\* It is possible that this eastern "Tibetan" tin came from ores near Burma: a region with the name of 'Dzud is placed precisely in the proximity of the Tibeto-Burmese border on Wylie's map of Tibet according to the 'Dzam-gling-rgyas-bshad (Wylie, 1962: opp. 286).

\*\* On khār sīnī, see also Allan (1979: 50 ff.). *The similarity of the word khār to the Tibetan 'khar is suggestive.*

Tibet, perhaps with Chinese or Burmese tin.

Since bell metal varies considerably in composition from about three to five parts of copper to one of tin, and the composition given by 'Jam-dpal-rdo-rje falls within such percentages, we may well accept "bell metal" as a suitable term for translating 'khar-ba, at least when supported by chemical analysis. In Nepal, according to my Newar informant, tin is present in three types of bronze used in the casting of various domestic and ritual items:

- i) Newar "bell metal" with two parts of copper to one of tin, used, for example, in the manufacture of water-pots and wine jars;
- ii) Newar "bell metal" with three parts of copper to two of tin, used, for example, in the manufacture of traditional plates. Neither appellations of "bell metal" by my informant correspond to the use of the word in Western metallurgy\*, where it may indicate any type of bronze in which the parts of copper may vary from three to five, to one of tin (75% to 83.34% in the alloy, whereas statuary bronze contains 80% to 90% copper in the alloy);

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\* My informant, J. Sakya, uses a Western word, either found in dictionaries or heard from foreigners. His proportions should be taken very cautiously until they are substantiated by metallographic analyses of actual samples of the objects he mentions.

iii) "bronze" made with two parts of white metal\* to one of tin is mostly imported from India. The very low percentage of copper from this melt makes it preferable to regard it as a variety of white metal;

iv) white metal, imported from India.

Images cast in white metal are rare and, because of their weight, I tend to believe that they are made of lead-based alloys, which are cheaper than tin and cadmium alloys. It may be interesting to note that the low melting point of lead and its relative freedom from contraction when solidifying makes it particularly suitable for casting and that it has been used as a substitute for bronze or precious metals from the time of Troy and Mycenae to this day in Western and Eastern art. Alloys i), ii), and iii) have not been mentioned to me as being used for common statuary purposes by any of my Newar informants. This circumstance confirms that the terms "bell metal" and "bronze" as translations of names of Tibetan and Himalayan metal alloys and compounds can be used only in a rather vague and approximate way with regard to ritual and domestic implements and can hardly be used at all in connection with the statuary from that part of the world. Hamilton's remarks also seem to confirm the use of

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\* In Western metallurgy, the following types of white metal exist:

- i) 91% Sn, 4.5% Sb, 4.5% Cu, or  
89% Sn, 8.0% Sb, 3.0% Cu;
- ii) 4% Sn, 10% Sb, 86% Pb, or  
1% Sn, 15% Sb, 83% Pb, 1% As;
- iii) 98.4% Cd, 1.5% Ni. The cadmium percentage is a minimum.

bronze by Newar craftsmen for the manufacture of domestic and ritual implements (1819: 232): "In Lalita Patan and Bhatgang there is very considerable manufacture of copper, brass, and Phul, which is a kind of bell metal\*. The bells of Thibet are superior to those of Nepal: but a great many vessels of Phul are made by the Newars, and exported to Thibet, along with those of brass and copper. Iron vessels and lamps are also manufactured for the same market."

### Silver

The earliest known silver\*\* item from Tibet was apparently manufactured in Bactria~~ma~~ and has been studied at length by Denwood (1973 repr.: 121-7). Authentic survivals of silver metalwork from the royal period are extremely rare and no serious archaeological or metallographic work could be carried out on the silver jug kept in the Jo-khang at Lhasa "said to be a recent outer covering, made in replica and containing an original piece dating from the time of Khri-srong-lde-brtsan." (Snellgrove and Richardson, 1968: 50)\*\*\*.

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\* Cf. Klong-rdol's text on "the manner to recognize precious substances": "There appear various counterfeit types of li in Nepal, Khams and Tibet, soundless and of a black colour." (Klong-rdol, 1973, ha: 1462, l. 3).

\*\* Tib.: dngul.

\*\*\* The "pottery drinking vessel, said to have been used by Srong-brtsan-sgam-po and now enclosed in silver" mentioned by Snellgrove and Richardson (1968: 50-1), appears to correspond to Srong-brtsan-sgam-po's bowl described by Tucci as being encased in a silver vessel on which he could read a date corresponding to 1946 (Tucci, 1952: 77). However, Richardson maintains that the "round-bellied silver jar with a long neck surmounted by a horse's head" bears a date corresponding to 1946, "a new covering in exact replica having been put over the original jar for its protection" and mentions Srong-brtsan-sgam-po's "earthenware beaker, now protected by a silver case" (Macdonald, 1977: 181).



འཕྲ་བོ་གཏུག་ལག་པ་ཤེས་པའི་མཁས་པའི་དེང་སྟོན་  
According to an account contained in the Kanjur (cf.

(Karmay, 1975: 31, n. 28), silver was used in the manufacture of a portrait of king Khri-srong-lde-brtsan, said "to have been placed in the extension of the temple of Āryāpalo (...) in bSam-yas, during the construction of this monastery." (c. 779; Karmay, 1975: 4). From a Chinese source we also know that in 824 A.D. Tibet presented China with a yak, a sheep and a deer, all "cast in silver" (Demiéville, 1952: 203, note); "Gold and silver objects are often mentioned among the presents offered by Tibet to the Chinese court.". It is possible that Iranian silverwork was known in Tibet from a very early period and that its reputation lasted until the early XIXth century. 'Jam-dpal-rdo-rje mentions that silver, if "roasted in the ru-ba-da wood of the country of Khurasan, flowed" (Chandra, 1971: 41) and Das maintains that "the kind of silver called mchog-can is imported into Tibet from Khorasan" (Das, 1976 repr.: 358). Whereas no silver mining occurs in Khorasan and during the Islamic period silver was used mostly as inlay or for jewelry, it is a fact that the zenith of the old Iranian silverwork tradition\* was reached during the Sassanid period (A.D. 224-651) and that Tibet came into contact with the Iranian civilization by at least the VIIth century A.D.\*\*The Tibetan tradition associating silver with

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\* The Persians have been skilful metalworkers since the Achaemenid period (550-330 B.C.).

\*\* Contacts with Iran continued after the Arab conquest (see below, p. 189). During the early VIIIth century Tibetans sent an embassy to the Arab governor of Khurasan requesting a teacher of Islam.

the Iranian world is contrasted by 'Jam-dpal-rdo-rje with the types of silver actually available in his day, which he specifies to have been Indian tang-kas, Chinese ingots in the shape of horse hoofs\* and Tibetan coins. "Chinese silver, especially in the form of horse's hoofs" was imported into Tibet from Mongolia (Bell, 1968 repr.: 122). Tibet imported silver also from Bhutan (cf. Pemberton, 1961 repr.: 77). Klong-rdol (1973, ha: 1461, l. 3) also mentions silver from Hor (Turkestan?) and from Khams : silver was indeed worked in small quantities at Dar-rtse-mdo (Coales, 1919: 246, "Tachienlu") and Tre-'o (or: sPre-'u; Coales, 1919: 246 spells it "Dau"), in eastern Tibet, where the presence of silver was attested in the early XVIIIth century by Desideri (Filippi, 1937: 121), as well as in lower sPo-bo (Ronge, 1978: 145). Furthermore, Hedin's informants mentioned the presence of mines in western Tibet (Hedin, 1922, IV: 99).

Tibet imported most of its silver requirements for minting from India and its trade had been in the hands of Newars for generations (Ronge, 1978: 145). However, in 1930 the British had so much raised its customs duty in India, that its purchase in Tibet became difficult. In 1931, the XIIIth

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\* Klong-rdol seems to have a high opinion of Chinese silver, but not to extend it to Indian silver: "The 'Indian yellow' one is the faulty one from India and Nepal." (Klong-rdol, 1973, ha: 1461, l. 3). It is true that Newars sometimes use a poor type of silver, with a yellow tinge, to cast jewellery items. As a rule, however, Newars use almost pure silver for their jewellery. Abdul Kadir's mention of silver "mines" in Nepal (Regmi, 1961: 247) is not supported by geological evidence.

Dalai Lama (1876-1934) attempted to import some from the United States, though probably without success (Cutting, 1947: 177-8). The silver exported from Tibet into Nepal (Lévi, 1905, I: 313) from at least the XVIIIth century (Wright, 1972 repr.: 211) was probably imported from China or from the West and some of it re-exported to Tibet after minting.

Silver has sometimes been used by Tibetan and Newar sculptors to cast images, and its statuary use has survived to this day (cf. Alsop and Charlton, 1973: 43)\*. Like copper and brass, silver has been widely employed for repoussé work by Newars in Nepal and Tibet and by Tibetans. A good example of a XXth century repoussé silver Tibetan statue is the 13 ft. high image of an eleven-headed Avalokiteśvara\*\* erected in 1970 in the main chapel of the newly built Tibetan Cathedral in Dharamsala (cf. Dalai Lama, 1970: 14).

The use of silver inlay in white li and composite copper and white li Tibetan statuary is attested by Padma-dkar-po from the reign of Ral-pa-can (815-836: see above, p. 171).

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\* In the shrine of Mr. Ravi Raj Karnikar, the keeper of the main teashop in the Darbar Square of Patan, there are two splendid cast silver images of a six-armed Bhairava and of an eight-armed "Mahālakṣmī" standing on two lions. Unfortunately, they are displayed for public veneration only once a year, on Yunyapuni. As I missed the opportunity of studying them on September 16, 1978, because of the compact crowd of visitors, I could not examine their inscriptions and can only provisionally assign them to the early XXth century. They both measure 9 x 6 inches. 8 9

\*\* This image includes faces from the eleven-headed Thugs-rje-chen-po which was destroyed by the Cultural Revolution in 1966. Parts of the heads were somehow rescued by the Tibetans and conveyed to India in 1967 and 1968 (cf. Dalai Lama, 1970: 13, and Richardson, in Macdonald et al., 1977: 174).

Silver has been consistently used for inlay work in brass and copper statuary in Tibet, and that tradition, traceable to Pala, Sena and Kashmiri statuary as they entered Tibet, is still followed by Newar sculptors like Nhuche Raj Sakya, Jagat Man Sakya and others, more often for their copper than for their brass production.

#### Gold\*

Deposits of alluvial gold in Nepal are mentioned by Hamilton (1819: 76 and 298), but their importance is minor and cannot be compared with the reputation held by Tibet as a gold-bearing country. Although the presence of gold mines in Tibet has often been the subject of wide speculation, extensive goldfields in the district of Sankora, western Tibet, were discovered by Swami Pranavananda, an Indian who made surveys in the 1930s and 1940s in the Mount Kailas and Lake Mānasarōvar districts. The mineral specimens he collected were analyzed at Benares Hindu University. Gold mines were also mentioned by Hedin's informants (Hedin, 1922, IV: 99) and gold was used by the XIth century kings of western Tibet not only to gild the statues mentioned above (p. 126), but also to pay Atīśa for his visit to Tibet in 1042. In central Tibet, Atīśa himself was presented by a nun with "the image of a horse made of gold on which a small boy made of turquoise was riding" (Roerich, 1976 repr.; I: 256). Gold mines at

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\* Tib.: gser.

Thok-ja-lung (cf. Macdonald, 1929: 25) in western Tibet are mentioned by Tucci (1935: 114-5) and illustrated by a picture of a pit in the Byi'u gSer-ka-kyi Ro (Tucci, 1937: opp. p. 65) area, where by order of the Lhasa government it was then forbidden to mine gold, "perhaps because the mines are too close to the border (...) People obey because they are convinced that by extracting from the earth the treasures contained in it, its fecundating power is made barren and its crops impoverished." (Tucci, 1937: 61-2). Besides the use of common placer techniques, digging occurred in western Tibet: "there are left the traces of the ancient excavation works: deep and narrow pits, like many ant-hills." (Tucci, 1937: 62). Commenting upon Pliny's and other historians' mention of the presence of gold in the area, Peteř (1977: 6) states that the most detailed treatment of the question is still that of Herrmann, who brings arguments to show that the tale of the "Dards" gold-digging ants "goes back to a hazy knowledge of gold-washings in Ladakh and Baltistan, and chiefly at Kargyl.". Although "gold is found in the sandy banks of the Indus and its tributaries right from Saspolo to Chilas on Dardi Stan" (Francke, 1977: 5), it is more likely that Herodotus's tale is connected with the western Tibetan areas visited by Tucci (cf. Tucci, 1937: 62), rather than with Ladakh or Baltistan. Gold excavations were noticed by Hedin (1910, I: 174 and 179) also "in the La-shung country" and his informants mentioned that many gold placers were in the north too (Hedin, 1910, I: 194). Many trails and paths of gold-diggers were spotted by Hedin (1910, I: 191 and 196)

in western Tibet. The Swedish explorer describes the technique used in two places in <sup>western</sup> ~~eastern~~ Tibet: "men come every summer, dig up the sand, throw it into the air, and collect the grains of gold on a cloth spread out on the ground. If the output is abundant, the number of gold diggers is doubled the following summer" (Hedin, 1910, I: 188). Most of the Tibetans digging gold in western Tibet came from Shigatse and Lhasa (Hedin, 1910, I: 194) for a period of two or three months and combined their mining activities with the trade of various goods carried during their journeys (Hedin, 1910, I: 189-90). On the other hand, workmen from "upper" (western) Tibet were brought in by the governor of lHa-khang-rdzong, in lHo Brag, not far from the Bhutanese border, to dig gold from an old river-bed in that area in the XIX century (White, 1971: 201).

In central Tibet, gold seekers had to buy the rights to prospect for gold (Ronge, 1978: 144; cf. Bailey, 1957: 188). Gold is found in lower sPo-bo (Ronge, 1978: 145) and Dvags-po (Waddell, 1906: 437; and Bell, 1968 repr.: 110) and Bailey describes the placing techniques used by labourers in the latter district (Bailey, 1957: 188; see also p. 193): "The way they did it was this. They dug a channel beside the stream about a yard and a half wide. With what they removed they made a dam across the exit of the channel. On this dam they placed five pieces of very short turf about 15 x 8 x 1 inches. These made a weir-top, when the stream was <sup>diverted</sup> ~~diverted~~ into the channel. Then they dug the mud from the stream-bed up stream and placed it on top of the turf, letting the top get gradually washed away. The mud in this way was removed



and the gold dust fell and was caught in the turf. As they worked, they moved slowly down stream, repeating the process over and over again. Twice a day, at noon and in the evening, the sods were removed and the dust washed out of them. The dust went through three stages, being washed first in a wooden pan three feet by one with a hollow in the middle. The contents of the hollow were washed finer in a small wooden bowl and finally these were washed more finely still in a tin. By the second stage I could detect grains of gold. But the deposits were obviously not very rich" and "if a nugget was ever found, it was replaced because the people believed that the nuggets would breed more dust"\*. However, gold "mines" existed in Dvags-po at Mani Serkha and Michung (Waddell, 1906: 437 and map) and the monastery of bSam-yas contained "the State treasury and gold from the mines" (Waddell, 1906: 440, n. 1). South of the gTsang-po river, the nomads of Mus mined gold because they were required to pay their taxes in gold dust (Ekvall, 1968: 55). An episode illustrating the Tibetans' ambiguous attitude towards mining is reported by Macdonald (1932: 220-1): wishing to be self-sufficient in gold supplies, the Tibetan administration sent a monk who had been trained in England as a mining engineer to prospect for

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\* Cf. Waddell (1906: 474-5): "The gold is found in nuggets as well as in spangles and dust; but the Tibetans are careful to leave the nuggets intact or to replace them if disturbed, under the belief that they are living and are the parents of the spangles and gold-dust, which latter would disappear were the lumps removed."

gold to the north of Lhasa; however, the reaction of the local monastery towards such unsacred activities was such that, although the prospecting had been successful, the monk was "recalled to Lhasa, and placed on duty as a police officer, with the title of Khenchung, of the fourth rank of monk officials.". According to the Nepalese consul in Lhasa at the time of the Younghusband expedition, the best gold came from a reef, "a few days' journey due east of Lhasa" (Waddell, 1906: 474).

The presence of gold in eastern Tibet did not escape the notice of Desideri, who also describes a placer technique used by Tibetans as he observed it in the early XVIIIth century: "gold and silver of good quality exist in the province of Kham, indeed gold is to be found everywhere in Thibet, but there are no mines as in other countries, the people simply separate it from the earth and sand in the following manner. Near the rivers, with great labour, Thibettans move large blocks of stone and dig out the earth and sand underneath, which they throw into a trough. Into this, after placing therein large square sods, they pour much water, which running down carries off the earth, the coarser sand and the small stones. The gold and fine sand is caught in the rough grass of the sods, which are washed over and over again until none remains, The gold is generally like sand and not in nuggets. It is usually found in flat land at the foot of mountains, because the rain washes down the earth and with it the gold. It is therefore manifest that if the Thibettans knew how to tunnel mines in these sterile bare mountains they would find much gold"

(Filippi, 1937: 121-2). Alluvial gold is widely distributed in the sands of the great eastern Tibetan rivers (cf. Ronge, 1978: 143): "the usual method of cradle washing is employed, the concentrates being finished off with quicksilver" (Coales, 1919: 246). Similar mining techniques were used in eastern and western Tibet (Ronge, 1978: 144). It is possible that placer mining was favoured because "it can be operated without undue damage to prejudice against digging", which arose from the religious belief that delving into the earth was "to disturb the subterranean demons and destroy the crops and the people" (MacGovern, 1924: 343). Centres of gold exploitation in Khams were in the further neighbourhood of Li-thang (cf. Waddell, 1906: 474), for gold washing was forbidden by the monks in the near neighbourhood of the town, although its trade was allowed in Dar-tse-mdo (Ronge, 1978: 143). T'ai-ning, a locality north-west of Dar-tse-mdo "used to be a gold-mining centre, but the neighbourhood" had been worked out by 1919 and everywhere "abandoned workings, in the shape of pits in the gravelly soil by the streams" were noticed by Teichman (1922: 61). Besides the regions of Dar-tse-mdo, T'ai-ning and Li-thang, Goré (1923: 324) mentions southern Mi-nyag and Tchan-touei, the Chinese name of an area where gold mines were being exploited. The most productive gold mines on the frontier in 1918 were in Erkhai, in rGyal-rong, and Nyag-rong (Teichman, 1922: 65-6 and 70). Information on gold deposits in eastern Tibet brought "hordes of Chinese" into the country (Duncan, 1964: 19), but the Chinese gold-washers who appeared in the nineteen-forties in those areas could prospect only under military authorization and protection

(cf. Guibaut, 1949: 59 and 174-5). The eastern Tibetan gold deposits controlled by natives could only be exploited by the local rulers (cf. Ronge, 1978: 143). Already in the early XVIIIth century, Desideri had noticed that "anyone can dig for gold after obtaining permission from the Governor of the district to whom a small quantity of the gold found is due" (De Filippi, 1937: 122). Although "the yield of gold" was "generally poor" and the mines were exhausted "after a year or two", in the winter of 1916-17 "several thousands" of Chinese labourers were engaged in exploiting the gold fields 50 miles north-east of Tre-'o, in Hor (Coales, 1919: 246). That gold reached the market of Yunnan (Ronge, 1978: 143).

Gold is also "found in places in the uplands of the Northern Plains and in numerous river beds" (Bell, 1968 repr.: 110) and "mined at several places over a tract of some 300 miles in length, on the Changt'ang desert to the north-east of Lhasa" (Waddell, 1906: 474). Chinese gold was imported from Mongolia (Bell, 1968 repr.: 122) "more as a donation to Tibetan Lamas than as the price paid for Tibetan goods. This influx of gold from Mongolia" did much in enabling Tibet "to keep the balance of her trade" (Kawaguchi, 1909: 456).

Mining gold by placer techniques is a subsidiary activity of northern and north-eastern pastoral nomads. However, it "is contrary to nomadic prejudice concerning disturbing the soil and robbing the soil lords. It appears to derive from the proximity of historically worked mines (...) and tax policies which require taxes paid in gold dust (...) A number

of pastoral communities prohibit mining altogether and enforce heavy penalties", even death, "for any violation" (Ekvall, 1968: 55).

Tibet exported gold from an early time. During the early kingdom there was a very lively trade between Tibet and the Arab Caliphate, and, besides musk and other items, Tibetan gold found its way to the West.\* Gold "in dust, grains and small lumps" was produced and exported from Tibet in Kirkpatrick's days (Kirkpatrick, 1975 repr.: 206) and gold was exported not only from Tibet to Nepal (cf. Lévi, I: 315) from at least the XVIIIth century (cf. Wright, 1972 repr.: 211), but also to China in the form of gold dust (Bell, 1968 repr.: 122). However, that the Tibetan administration found it difficult to be self-sufficient in gold is shown by the episode of the prospecting monk mentioned above. Gold was imported from China through Mongolia (Bell, 1968 repr.: 122) and thanks to the efficiency of the British mail system, bars of gold packed in wooden crates of the weight of ten pounds could be mailed by a Newar trader from India to Lhasa for minting purposes (Ronge, 1978: 145). For generations Newar traders exported gold into Tibet, sometimes from India (Ronge, 1978: 145).

Statues cast in solid gold are extremely rare in Tibetan and Himalayan statuary and, as a rule, textual references to gold images should be understood as meaning "gilded". Solid gold has been used to cast or hammer ritual objects and jewellery by Newars and Tibetans, and Landon (1905, II: 309) mentions "rows and rows of great butter-lamps of solid gold"

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\* See Beckwith (1980: 35).

in front of the Jo-bo's altar in the Jo-khang at Lhasa, whereas Tucci (1952: 80) mentions solid gold lamps in the chapel of the XIIIth Dalai Lama (1876-1934) in the Potala\*; a XXth century golden butter lamp is illustrated and described by Pal (1969: 128 and 160, No. 117).

According to a traditional account contained in a text written by Rang-'byung-rdo-rje in the XVIIIth century, "as to the most precious thing of the king of the Hor", on the eastern side in the tomb of the Tibetan king Srong-brtsan-sgam-po, "it was the figure of a man and of a horse in gold" (Tucci, 1950: 4). Indeed, Padma-dkar-po mentions gold being used for statuary purposes during the reign of Srong-brtsan-sgam-po (Padma-dkar-po, 1973, I: 300, l. 3). The T'ang annals refer to all kinds of golden presents the Chinese received from the Tibetans: "a suit of gold armour, a golden goose seven feet high and holding ten gallons of wine, a miniature city decorated with gold lions, elephants and other animals, a gold wine vase, a gold bowl and agate wine-cup, a gold duck, plate and bowl. Gold animals are also mentioned as decorating the camp of the Tibetan king (Ral-pa-can) on the occasion of the visit of a Chinese envoy in 821" (Snellgrove and Richardson, 1968: 51): "The king sits in a tent which is decorated with gold ornaments in the form of dragons, tigers

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\* Gilded silver offerings are mentioned in the same context, thus reminding us that gilding is by no means limited to copper and brass only.



and leopards (...) He bears a sword inlaid with gold"\* (Snellgrove and Richardson, 1968: 64-5). It is very difficult to ascertain whether what the Chinese envoys saw were gilded rather than golden images\*\*. By the IXth century, Tibetans had started making use of inset stones in their statuary, for we know from al-Ya'qubi that the Tibetan governor of Turkestan presented "a statue made of gold and precious stones" to Al Ma-'mun (Shakabpa, 1967:48)\*\*\* during the reign of the Tibetan king Khri-lde-srong-btsan (800-815). Significantly, Padma-dkar-po mentions that gold was used during the first and third period of the religious kings (VIIIth and IXth centuries; Padma-dkar-po, 1973, I: 300, l. 6 and 301, l. 6) for the fire-gilding process, which consists in applying a gold amalgam to the metal and driving off the mercury with heat, leaving a coating of gold on the metal surface (see ch. IV, pp.

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\* This mention could confirm that inlay work was known to the Tibetans from at least the IXth century (see above, pp. 170-171 ). The bibliographic sources referring to all these gold objects are reported in a long note by Demiéville (1952: 202-3), who concludes that "the workmanship of precious metals appears to have been very advanced in ancient Tibet.

\*\* It may be interesting to note that "many of the artificial golds produced by the Chinese aurifactors and alchemists were brasses of suitable composition" (Needham, V/2: 209). In both Indian and Chinese alchemical literature the addition of zinc ores to copper was sometimes thought to give rise to gold (cf. above, p. 156 ). Brass has been assimilated to gold since the dawn of the history of its manufacture (cf. Rāy, ed., 1956: 131).

\*\*\* I am grateful to Mr. Denwood for drawing my attention to this interesting bit of information. The statue was later sent to the Ka'ba in Mecca (Peteck, as reported by Shakabpa, 1967: 48 ).

221-228 ). Further confirmation of the gilding of metal images during the IXth century is provided by dPa-'bo gTsug-lag-'phreng-ba (cf. Karmay, 1975: 5).

### Iron\*

Though thought to be used in alloy to manufacture the artificial dzhai-kshim mentioned above, it hardly appears in any significant amount in Tibetan and Himalayan statuary alloys (cf. tables above, pp. 120-2).

I understand that the Newar artist Jagat Man Sakya has made use of it in casting a few images. Alsop and Charlton (1973: 43) confirm the use of iron for occasional casting in Pātan. Iron images are comparatively rare in Tibetan and Himalayan statuary, notwithstanding the presence of ores in Tibet and Nepal (cf. Hodgson, 1972 repr.: 109). 'Jam-dpal-rdo-rje dwells extensively on the subject and Klong-rdol mentions that "the soft Tibetan white iron is good as material for the begging bowls" of monks, into which edibles are thrown by alms-givers; whereas in China "'poor' iron, not tempered, is ideal for various arts and crafts (...)\*\* Farming tools are of

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\* Tib.: lcags (though in other contexts lcags merely means "metal") and khro -nag (see above, p. 174, n. 2).

\*\* Klong-rdol must have been aware of the fact that, besides its more traditional uses, iron sometimes replaced bronze in Chinese statuary, and that it was used in China not only for temple-furniture (braziers, censers, cauldrons and even bells), but also to build pagodas and, in the XVIIIth century, pictures, through the medium of wrought iron.

'poor' iron from Khams and Kong(-po)" (Klong-rdol, 1973: 1461-2). Tibet is "full of iron ore" (McGovern, 1924: 343). The existence of iron deposits in Khams was confirmed by the findings of the geological section of the Chinese Academy of Science (see above, p. 140) near Chab-mdo (cf. Ronge, 1978: 146). Iron deposits were also located in the Thanglha Range, now on the border of the Tibetan Autonomous Region and the province of Tsinghai. Iron mines in the Nag-chu-ka area, in central Tibet, were reported in production by the late 1950s. Iron is to be found also in western Tibet, where Pranavānanda (see above, p. 182) discovered it on the eastern shores of Lakes Mānasarōvar and Rākṣas Tal. Iron ores also exist in lower sPo-bo (Ronge, 1978: 145) and it is very likely that Tibet was self-sufficient in iron and the item does not appear in Kirkpatrick's list of exports to Nepal and Tibet. Iron ores and mines are known to exist also in Nepal (Hamilton, 1819: 76, 269, 272, 275 and 297) and only steel appears in the lists of the country's imports from India in the XIXth century (cf. Hodgson, 1972 repr.: 109): "Nepal is full of copper and iron and people have great skill in working them."

#### Lead

Lead\* is not used as a statuary alloy on its own in

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\* Tib.: gshe<sup>2</sup>-dkar. zha-nye.

Tibetan and Himalayan art\*, although it enters in the composition of white metal (see above, p. 177, n. 1). As we have seen, lead deposits were located in Tibet by the Chinese Academy of Science after the Chinese occupation of the country (see above, p. 140). Lead is found in eastern Tibet, in 'Ba-thang and dMar-khams (Cooper, 1871: 463 ) and Yu-t'ong (Goré, 1923: 324). The existence of a lead mine two-day's journey from bKra-shis-lhun-po is reported by Saunders (Turner, 1800: 405). The lead mines mentioned by Bailey (1957: 167) at Kyimdong Dzong, in Dvags-po, were nearly exhausted at the time of his expedition in 1913, although "they were still being worked, the lead being extracted by heating the ore with charcoal." Tibet had to import lead from Szechwan and perhaps Nepal (Waddell, 1906: 170) in round-shaped ingots and that "treasured metal was typically reckoned equivalent weight in silver" (Ronge, 1978: 145). 'Jam-dpal-rdo-rje was aware of the circumstance that lead can be associated with silver ores: "It flows out of the place of the ashes (residuum) of silver (Chandra, ed., 1971: 43). He also mentions Indian, Chinese and Nepalese red lead and explains that, "if you roast it, lead flows out" (Chandra, 1971: 61). A Uda occupational group specialized in the manufacture of red lead in Nepal (see ch. I, p. 27, n. 2).\*\* Lead mines existed in Nepal (Kirkpatrick,

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\* In the West lead has been used for statuary purposes from the time of Troy and Mycenae: its low melting-point and relative freedom from contraction make it particularly suitable for casting, and it has been used as a substitute for bronze or precious metals.

\*\* Lead, China red lead, and white lead were imported into Nepal from India (Hodgson, 1972 repr.: 109). White lead is a pigment manufactured by the corrosion of metallic lead.

1975 repr.: 212 and Regmi, 1971: 68), but there was "no skill to work them profitably" (Hodgson, 1972 repr.: 119; cf. ibid.: 109) and the metal was imported from Patna (Kirkpatrick, 1975 repr.: 212). The presence of lead ores in Nepal is reported also by Hamilton (1819: 76, 195 and 279).

From the study of Werner's data (Werner, 1972: 184-7, table 4.1) and the analytical data reported above (pp. 120-2) it appears that small lead percentages are present in a number of brass statues and virtually absent from copper ones. The late Nepalese image studied by Bhowmik (see above, p. 157) contained 2.37% lead in its brass alloy. The Cleveland Buddha contains as much as 11% lead in its brass alloy and the brass Kashmiri Buddha reported on page 121 (Cat. No. 56) contains 10.37% lead. The lead values of "western" Tibetan images in the same list vary from 0.82%\* to 9.22%, but most of the statues analyzed by the British Museum Research Laboratory have a lead proportion of only 1%, which more often than not corresponds to constant copper and zinc percentages. The presence of lead in Tibetan and Himalayan statuary brass dates from at least the XIth century and Newar sculptors still use it in small amounts for casting brass images: although the lead addition to the alloy reduces the strength of brass, it increases its ductility and makes it more suitable for engraving purposes.

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\* Because Western leaded brasses contain from 0.5% to 3.5% lead, I regard any lead percentage above 0.5% as significant in the study of Tibetan and Himalayan statuary brass. It should be noted that the Nepalese Akṣobhya reported above (p. 121, Cat. No. 87), although cast in almost pure copper, contains 0.55% lead, perhaps to compensate for the presence of 2.62% zinc in the alloy, or else because of the use of scrap leaded-brass in the casting.

### Mercury

The importance of mercury in metal statuary is connected with its unique and irreplaceable role in the traditional mercury-gilding process as described in the following chapter.

Mercury\* enjoys a great reputation in Tibetan and Indian alchemical literature and occupies first place in the list of precious substances which can be melted, as examined by 'Jam-dpal-rdo-rje (Chandra, 1971: 40), thus preceding gold, silver and copper. 'Jam-dpal-rdo-rje quotes the fourth book in the rGyud-gzhi, the "Phyi-rgyud", to say that mercury "is manufactured by roasting cinnabar", the native mercury-sulphide (Chandra, 1971: 40, l. 3). He further distinguishes vermilion (Tib.: mtshal), a synthetic mercury-sulphide, from cinnabar (Tib.: cog-la-ma) and again mentions that if one roasts the former "quicksilver flows" (Chandra, 1971: 59, ll. 2-3). As to the latter, "it is called mtshal-rgod ('wild vermilion') and also rgya-mtshal\*\* on account of its appearing in India (Tib.: rGya-gar) and China (Tib.: rGya-nag)\*\*\*. In the native red stone there is a great deal of purple. It is like an arrangement of wide needles. By melting it there appears mercury." (Chandra, 1971: 59, ll. 1-3). It is generally

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\* Tib.: ngul-chu and a number of esoteric names.

\*\* rgya is an adjectival prefix which may indicate India or China. Chinese vermilion was occasionally exported to Europe during the first half of the XVIIIth century and its reputation of high quality became firmly established from the second half of that century (Harley, 1970: 116).

\*\*\* Quicksilver and cinnabar appear in Turner's list of Chinese exports to Tibet (Turner, 1800: 381).



accepted that Tibet imported vermilion "from India or China, both which had the technology for synthesizing it since ancient times." (Jackson, 1976: 277), but the evidence for the existence of various occurrences of both mercury and cinnabar in India itself "is not trustworthy and those that have been examined have proved spurious" (Brown and Dey, 1955: 299). Both vermilion and mercury were exported from India to Nepal and Tibet (Kirkpatrick, 1975 repr.: 209; and Hodgson, 1972 repr.: 109) during the XVIIIth and XIXth centuries, although the Newars were acquainted with the technology necessary to synthesize the latter and vermilion was manufactured in both Kathmandu and Pātan (cf. Regmi, 1971: 67). According to Nadkarni (1954, II: 72) cinnabar was "found in Nepal", and Hamilton (1819: 264 and 272) confirms the existence of cinnabar mines in Nepal. However, as the item appears in Kirkpatrick and Hodgson's lists of Indian exports to that country, it is very unlikely that Nepal was self-sufficient in mercury.

The earliest mention of cinnabar ores in Tibet is by della Penna (1730, in Markham, 1879: 317). Native Tibetan cinnabar ores "exported to the low country for sale" are mentioned by Turner (1800: 78 and 296) and "cinnabar, containing a large portion of quicksilver" by Saunders (Turner, 1800: 405), who travelled through southern Tibet to Tashilhunpo. Saunders, a surgeon, only mentions the medical uses of mercury (Turner, 1800: 410)11). Mercury ores are found in lower sPo-bo (Ronge, 1978: 145) and Ronge (1978: 148) maintains that vermilion was produced from crystalline rock (cinnabar?) found near Go-'jo, in eastern Tibet. Waddell (1906: 475) confirms that mercury came from Li-thang and 'Ba-thang, and Ronge (1978: 145) maintains

that the one obtained from cinnabar deposits in the latter district was actually used for fire-gilding purposes. Also Pranavananda (1939: 37) mentions that mercury is obtained in eastern Tibet. Again, Jackson (1967: 277) suggests that cinnabar "occurs naturally in some parts of South-East Tibet. It is easily recognizable by its reddish metallic appearance and extremely heavy weight". However, I understand from Mavis Bimson that according to Dr. Resters, of the National Gallery, London, vermillion made by the sublimation method is pretty well indistinguishable from the best native ores. In any case, it is clear from 'Jam-dpal-rdo-rje's descriptions that Tibetans knew how to extract mercury from cinnabar\*.

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\* Turner (1800: 372) maintains that Tibetans did not know how to extract mercury from cinnabar, though he mentions the existence of mines of cinnabar, containing a great proportion of mercury and used "for colouring, in paint". In the same book, however, Saunders (Turner, 1800: 410-1) observes: "nor could I allow myself to think that they were acquainted with the method of preparing quicksilver, so as to render it a safe and efficacious medicine. In this, however, I was mistaken (...) There is one preparation of mercury in common use with them, and made after the following manner. A portion of alum, nitre, vermillion, and quicksilver, are placed at the bottom of an earthen pot, with a smaller one inverted, put over the materials, and well luted to the bottom of the larger pot. Over the small one, and within the large one, the fuel is placed and the fire continued for about forty minutes. A certain quantity of fuel, carefully weighed out, is what regulates them with respect to the degree of heat, as they cannot see the materials during the operation. When the vessel is cool, the small inverted pot is taken off, and the materials are collected for use. I attended the whole of the process, and afterwards examined the materials. The quicksilver had been acted on, by the other ingredients, deprived of its metallic form, and rendered a safe and efficacious remedy.". This passage, along with 'Jam-dpal-rdo-rje's observation, suggests that Tibetans were aware of the property of heated mercury and cinnabar to evaporate and possibly of the techniques to collect mercury during the heating process. However, quicksilver and cinnabar appear in Turner's list of Chinese exports to Tibet (Turner, 1800: 381).

## Chapter IV

### THE TECHNIQUES

Clay and wax require different modelling techniques and different tools. Dagyab (1977, I: 46-7 and II: plates 55-6 and 63) has devoted a chapter to clay modelling, an art in which Tibetans excel to this day: clay statues of small to very large proportions, masks, and tsha-tshas\* are manufactured extensively in the Himālayas, from Ladakh to Bhutan (cf. Dagyab, 1977, II: 49, pls. 61-2). The main tool used for modelling clay is a double-ended spatula called 'ded-wan'(?) (Dagyab, 1977, I: 46 and II: 49, pl. 63) made of wood, although I have seen a metal one being used by the chief living sculptor in Ladakh, Ngag-dbang-tshe-ring, for modelling masks (see ch. II, pp. 104-5). Tsha-tshas, the small clay reliefs and statuettes or stūpas used to fill gaus and larger statues or stūpas, are impressed with metal or wooden moulds of corresponding sizes\*\*. Tsha-tshas may be baked, but that is not the case with statues and masks. Both methods, of firing or of simply drying clay with a source of heat, have been used in the Himālayas and clay images are classified accordingly

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\* For an exhaustive study on these votive objects, see Tucci (1932<sup>1</sup>: 53-109).

\*\* An inscribed metal tsha-tsha mould is kept at the British Museum (Reg. No. 1906.7-18.9.).

in śilpasāstras like the Śilparatna\* (Shukla, 1958, II: 100). Clay statuary is given a pre-eminent position in some Sanskrit texts: in distinguishing the degree of suitability of materials for images, the Agnipurāna places clay first, wood second, and fired clay third, before stone and metals (Bhattacharya, 1979: 62). That is not surprising, for metal came to be intensively used for statuary purposes only during the Pala period: "The archaeological evidence also shows that possibly for durability, portability and high finish, metal images became more popular towards the end of the Gupta period" (Bhattacharya, 1979: 62): the 'Madhūcchistavidhāna' as reported in the 68th chapter of the Mānasāra "(a work of Gupta period as contended by Dr. P. K. Acharya) and detailed instructions as detailed in the Pañcarātra religious-texts (sic) like Hayasīrṣa, etc. in regard to the preparation of clay to be used in besmearing the wax-model are a sufficient testimony of this icono-plastic art of metal-casting" (Shukla, 1958, II: 108-9).

Both solid and hollow-casting by the lost-wax process were then practised in northern India, and reference to them is made in the Viṣṇudharmottarapurāna (III, 43-44. Reeves, 1962: 32) which is also a well-known text in Nepal (Pal, 1970: 13; cf. Lévi, 1905, III: 133). However, the earliest text describing that technique is the Abhilaṣṭārtha-cintāmaṇi, also known as Mānasollāsa or Mānasollāsa Śāstra, written in the

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\* Presumably the Śilparatna by Śrī Kumāra of Kerala, who lived in the latter part of the XVIth century (Śāstrī, 1922, I: 2).

XIIIth century. The verses concerned with the lost-wax process have been translated by Saraswati (1936: 142-44). By then, hollow-casting had reached a degree of perfection which enabled sculptors to attempt fashioning very large images, for which the repousse technique is generally preferred in Himalayan and Tibetan statuary. The 2.85 m. Sultanganj copper Buddha referred to in chapter III (p.116) was cast in several pieces by the hollow-casting method (Reeves, 1962: 22-3) and it is very likely that the 1.98 m. Divsar frame (see ch. III, p.132, n. 3) was cast with the same technique and method

During the first half of the IXth century, at the time of Devapala's rule (c. 821-861) "the work of two outstanding Bengali painters and sculptors, father and son, named Dhiman and Bitopala respectively, gave rise to a new style in metal art. This school's widespread use of the cire perdue process was to influence the manufacture of copper\* icons in Nepal and Tibet at the turn of the Xth century A.D., particularly with respect to copper gilt images which are still produced there today" (Reeves, 1962: 23). Reeves' assumption that the lost-wax technique was spread by Dhīmānra and Bitpālo may be based on the fact that hollow-casting by the lost-wax process was used in post-Gupta (cf. the Sultanganj Buddha) and Pala northern India. The earliest reference to those two artists is to be found in Tāranātha's History of Buddhism in India\*\*. Sum-pa-mkhan-po (1702-1775) mentions them in his dPag bsam ljong bzang (Goswamy and Dahmen-Dallapiccola, 1976: 114),

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\* And brass (see chapter III).

\*\* Written in 1608.

and stresses how both artists had "a number of followers in Nepal". A slightly more detailed account in the steps of Tāranātha is given by Kong-sprul (Chandra, ed., 1970: 570, ll. 1-4): "In the time of Devapāla, in Varendra, there appeared (an artist) named Dhīmānra and his son, named Bitpālo, who lived in Bengal. As for those, they were very skilled in the arts of painting, embossing, casting and chasing. The followers of their traditions were thus called respectively: 'Central (Magadha) sculpture', 'Old Western casting'\* and 'Eastern sculpture'. Also, as for (the school of) the 'Eastern Gods', the followers of the father were regarded as 'Eastern (school of) graphic arts', and the followers of the son as (the school of) 'Central painting', for it spread in Magadha". In the following section it is made clear that "furthermore, in the country of Nepal, the early tradition of sculpture was similar to the Old Western one. As to the paintings and copper alloy images of the middle period, they conform to the Eastern One. Later on it is not clear, for, to an eminent degree, the Newār is a school of its own.". These two passages suggest that Reeves is right in assuming that Newar sculpture drew its techniques from northern Indian and Pāla metal statuary. The earliest literary evidence of the use of beeswax for the casting of copper images by a Newar artist is found in the Yuandai huasu ji which "records several sculptural projects that Anige was asked to undertake. This book is a record of the materials used by artists of the Mongol court, between 1295 and 1330 AD." (Karmay, 1975: 21). From its detailed account we know that Aniko (see ch. I, pp. 4-6) and other

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\* Or: "school".



artists were ordered to cast six copper images by imperial decree in 1305. For this purpose "he used 418 catties (...) of beeswax, 843 catties of copper....36 ounces of silver etc." (Karmay, 1975: 23).

Both hollow and solid lost-wax methods are used by XXth century Newar sculptors, the former for medium size (from 6" to 1½') to large (from 1½') images, the latter for smaller (6" or below) and sometimes medium size images: the use of the two methods overlaps for medium size images ranging from 1' to 1½' and Nhuche Raj Sakya's figure of 40  
 Vaikunṭha studied in chapter II (pp. 82-5) is a good instance 41  
 of medium size solid lost-wax casting. Whereas for solid casting the model is made of solid wax, in hollow casting the model is made of hollow wax. Within the hollow-casting method two further techniques must be distinguished: one consists in applying a layer of wax to a clay model, and the other, the only one used in the Nepal Valley, consists in modelling a hollow wax model without the help of any kind of core (cf. Alsop and Charlton, 1973: 51). The latter technique was apparently in use in Bengal and Bihar during the Pāla dynasty and it is likely that it was exported into Nepal by the end of the XIIth century, when the Sena lost their political control over most of their northern Indian dominions to the Muslims and Indian artists may have emigrated to Nepal and Tibet (cf. ch. III, p. 172).

A seminal study by Labriffe-Aris on metal casting with the lost-wax process in Jagat Man Sakya's workshop (cf. ch. II, pp. 93-5) was published in Kailash in 1973. Another study by Alsop and Charlton on image casting in Oku Bahal was

published in Contributions to Nepalese Studies the same year. The following notes are intended to sum up the technique of lost-wax casting as practised by XXth century Newar sculptors and aims chiefly at supplementing those studies with more detailed information, especially with regard to the timing of investing and casting. They were written also keeping in mind four pages of specific questions on the subject, as drafted by Dr. Craddock, Oddy and Bimson of the British Museum Research Laboratory, on January 4, 1980.

i) Wax model

The composition of the wax used in modelling varies according to the climatic conditions in the Valley: the light "summer" wax is made with a mixture of 50% beeswax, bought from Tamang farmers\* living in the hills surrounding the Nepal Valley, and 50% "sila", a tree resin\*\* imported from India; the dark "winter" wax is made with a mixture of one dhārnī (= 216 tōlās)\*\*\* of beeswax, 1½ to 2 pāos (27-36 tōlās) of

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\* The Tamangs are the most numerous ethnic group living in Nepal. In the XVIIIth to the XIXth century, Nepal produced enough wax and honey to export them to India (cf. Kirkpatrick, 1975 repr.: 205, Hodgson, 1972 repr.: 115, and Regmi, 1971: 20).

\*\* The 68th chapter in the Mānasāra, reporting the Madhūcchis-tavidhāna, mentions that the dammar used to manufacture statuary wax is the resinous sap of the sal tree (Reeves, 1962: 30). Sal dammar is obtained from Shorea robusta, a tree abounding in sub-Himalayan regions, including the Nepalese Terai.

\*\*\* In his list of "Weights used in weighing metal utensils", Wright (1972 repr.: 298) gives "1 dhārnī = 5 pounds avoirdupois". According to him and to Hodgson (1972 repr.: 104) "The Népalése dhārnī is equal to three seers". One seer = 4 pāos and 1 pāo = 18 tōlās (Wright, 1972: 298). In that system, which was standardized by king Ram Shah (Regmi,



70A. A wax sheet is slightly heated above the stove (*milācā*).



70B. Tools used to model the wax figure. Note the "silatu" (Nos. 1 and 3).

"sila" and about  $\frac{1}{2}$  pāo (9 tōlās) of vegetable ghee extracted from the seeds of the tree Madhuca butyracea (Roxb.) Macbride sive Bassia butyracea Roxb. (Nep.: c/yurī), a Sapotacea attaining 21 m. in height, distributed in the sub-Himalayan tract from 300 to 1500 m. altitude and growing also in the Kathmandu district. Small pieces of beeswax are melted in a brass or aluminium pan over a low flame of a charcoal brazier, then powdered resin is added to it and stirred well\*. Next, the vegetable fat is added and stirred vigorously. The round wax sheets (Labriffe-Aris, 1973: fig. II, opp. p. 186) used 70A by sculptors for modelling their images are prepared by beating a cake of wax with a mallet and by spreading it uniformly on a stone slab with a roller.

The chief tool used in wax-modelling is the "silatu"\*\*, 70B a buffalo-horn spatula rounded at both ends, one end being wider than the other, and with one side slightly rounded and the other almost flat, so that its edges are not sharp. "Silatus" vary slightly in size, but they usually measure between  $5\frac{1}{2}$ " and 7" and are about  $\frac{5}{16}$ " thick. A larger type of "silatu", with the shape of the horn from which it is made, but cut at both ends (cf. Labriffe-Aris, 1973: fig. I), 70B

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1971: 207), one dhārñī = 216 tōlās. One tōlā = 11.6638 gm. (cf. Regmi, 1961: 21). We thus have the proportion  $24:3/4:1$ .

\* Krishnan (1976: 30) mentions mustard seed oil instead of vegetable ghee and gives the following proportions: sixteen parts of beeswax, eight parts of resin and one part of oil.

\*\* Labriffe-Aris (1973: fig. I, opp. p. 186) gives the spelling "silāyakū". The outline of this spatula is reminiscent of the shape of some fountain pens.





70C. Modelling stove.



71A. The artisan evens out the edges before joining the sections of the wax figure.

is used to roll wax rods, which are employed to make attributes, necklaces, and so forth. The importance of the smaller "silatu" in modelling the wax is such that Kalu Kuma (see ch. II, pp. 85-93) is understood to regard it as a sixth "finger". Other tools, such as the scissors used to cut wax, are made of metal or wood.

The sculptor models the parts of his images, whether hollow or solid, without a core, by skilful manipulation of portions of wax sheet and the use of the "silatu", which is frequently moistened with saliva to avoid sticking, near a portable cylindrical charcoal stove ("ou cha"; Labriffe-70C  
-Aris, 1973: fig. IV, opp. p. 187 has "milācā") made of a clay called "ghoti cha" (Labriffe-Aris, 1973: 189, n. 13c has "gathi") and provided with a draught window in the lower section and a perforated fuel receptacle in the upper section. The stove used by Kalu Kuma measures 7" in height and has a diameter of 11". The thickness of the hollow wax models or their parts varies according to the size of the statue and type of metal to be used: hollow copper images need a thicker wax model than brass ones (cf. Alsop and Charlton, 1973: 38 and 40). The various parts of the statue are assembled by evening out and heating their edges before 71A  
joining them. Once the model is completed, the artist wets 72  
its outer surface with water and firmly presses on its various parts portions of slightly heated thicker wax in order to obtain the "thāsā" ("key", cf. Labriffe-Aris, 1973: 190 and fig. III, opp. p. 186), "female" mould sections which will 71B  
allow him to duplicate the same image or parts of it in a





71B. "Female" sections of a mould.



72. Kalu and Rajesh Kuma assemble the 2 ft.(61 cm.) wax model of Vajrabhairava. Pātan. September 1977 (see ch. II, p. 91)

shorter period of time. The "thāsā" also ensures that in case of mis-casting, the time employed to remodel the image, or part of it, will be reduced. In order to model from a "thāsā" the sculptor or his apprentice wet the inside of the sections and press the slightly heated thinner modelling wax against them. The various parts obtained from the "thāsā" are then joined together as with the first model. Although the apprentices may be involved in all modelling operations connected with the "thāsā", the modelling of the prototype is carried out by the sculptor alone. Finally, ornaments, and jewellery and attributes are modelled and fitted to the assembled wax figure. Kalu Kuma makes use of a black stone obtained from Tibet, carved in low relieve with the female moulds of a number of half-tondo religious attributes and ornaments which are part of the garments of his tantric deities. Once a wax model or its parts are complete, a wax tripod is fitted to their bottom edge: its rods will become sprues when the wax is melted away.

During the whole process, the artist makes use of a basin filled with water, in order to cool and harden the wax as needed, and of a small pot filled with constantly molten wax for retouching and joining. It should be noted that the artists do not use cores at any stage of their modelling, although a core is formed when investing the wax of hollow models.

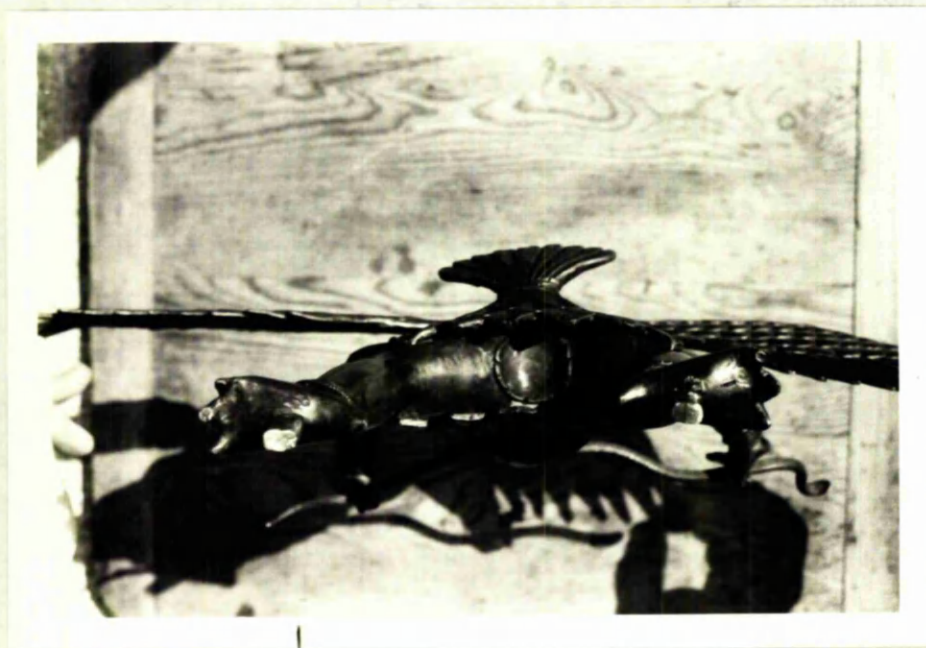
#### ii) Investing the wax

The investment of the wax is carried out by the sculptor or his apprentices, or else by a clay worker hired especially





73. Investing the wax with yellow clay.



74. Copper "window" and tenons visible in Kalu Kuma's Garuda.

for the job, as was the case with the investing of a number of small or medium size wax images as I observed it in one of Kalu Kuma's workshops. During the four days which it took one clay worker to invest Kalu Kuma's models the weather was sunny. I shall follow a chronological sequence to give an idea of the time involved in the various investing operations.

5.IX.78. A paste made of fine clay (Nep.: mashinō mātō; New.: "mashin cha"), water and cow dung in equal parts is applied to all the modelled nooks and crannies, which are more difficult to reach. Immediately afterwards, a more liquid, creamy solution of the same paste is splashed and poured over, and, where hollow, inside the wax model or parts of it, with the fingers (cf. Labriffe-Aris, 1973: fig. VI, opp. p. 187). 73

Where there is no direct access to the inside of a hollow model or parts of it, a small window is cut in the wax and paste pushed into it to form a core, whose thickness varies according to the size of the model or its parts. The wax window may be replaced before smearing the outer surface with the following layers, or else may be filled with clay and sealed with a piece of copper sheet after casting. The 74

excess cream is then shaken off and the clay left to dry in the workshop for about twenty-four hours.

6.IX.78. A thick paste made of yellow clay (Nep.: pahenlō mātō; New.: "masu cha"), water and rice husks is applied to the first layer. The resulting moulds are then put on a roof terrace to dry in the sun for a couple of days. Clay and rice husks are kept separately and mixed with water as needed in a large clay pot.





75. Moulds drying on a roof.



76. Dewaxing stove.

8.IX.78 One or more iron nails with the function of chaplets are driven into the outer layers through the wax and into the inner layers of clay of hollow models or parts of them, so that during the melting of the wax the inner layers constituting the core will not be displaced and will not hinder the molten metal from reaching all parts of the space left by the molten wax. A second, thicker layer of thick paste is then patted onto the moulds, which take their final cumbersome shape and are left to dry completely until ready for casting (Labriffe-Aris, 1973: fig. VII, opp. p. 188).

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### iii) Removing the wax

Dewaxing and the following operations will be described here in a time sequence referring to the copper casting of the same images whose investment has been described above. It took place in the small courtyard (10' 9" x 7') and porch of Kalu Kuma's old house, on the evening of September 13, 1978. The choice of time was due to the fact that casting is obviously more bearable in cooler conditions. Kalu's son, Rajesh, directed the operation, which involved four more workers, including his own brother-in-law, two other helpers of Kalu, and one of Bodhi Raj's (see ch. II, pp. 74-80) apprentices.

Although some workshops are provided with a dewaxing stove (Labriffe-Aris, 1973: fig. IX) and firing kiln (Labriffe-Aris, 1973: fig. XI) besides the blasting furnace (Labriffe-Aris, 1973: fig. X), the Kumas use a dual-purpose yellow clay kiln measuring 2'3" x 1'7" x 1'10", and built on a similar principle to the stove described above (p. 206): here, however,

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77A

77B



77A. Firing kiln.



77B. Blasting furnace.



the lower compartment is provided with a larger draught door, whereas the top compartment is provided with side and back walls, a temporary front wall being provided by loose bricks. Furthermore, the kiln is not moveable, but is built against one of the walls of the courtyard.

5.00 p.m. The moulds are placed on a charcoal fire resting on the receptacle separating the lower from the upper compartment of the kiln. They are turned with tongs until they are thoroughly heated, but not baked, for a period varying from two to five minutes according to the size of the mould. They are then taken out of the kiln and placed over a clay bowl. The head of the tripod is pierced and wax starts flowing out through the sprues. It takes a few minutes for all the wax to come out and eventually the sprues are poked with metal tools in order to ensure a clear passage for the molten metal to be poured into the tripod at a later stage. The wax thus recovered will be re-used for modelling, with its vegetable ghee replaced.

5.15. Copper sheets and scraps (including wire and a variety of bits and pieces) are hammered to the smallest possible size and jammed into an open glazed clay crucible 8" high and 6½" in diameter\*. These crucibles are imported from India and used especially for casting copper.

iv) Firing of mould and melting of copper

5.40. The fire in the kiln is reactivated with paper, dry corn cobs, small bits of wood and an electric fan whose

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\* All diameter measurements refer to the outer edge.

draught is directed against its door. Charcoal is placed on the receptacle and once it has started burning well the fan is switched off.

5.45. Coal\* is placed in the receptacle of a furnace built with bricks and yellow clay located in the corner opposite the kiln, and measuring 2'7" x 2'7" x 2'2". Combustion is aided by directing an electric blower into a pipe protruding 6" from the window in the lower compartment of the furnace, which, again, is built according to the same principles as the stove and the kiln, though with much thicker walls. The blower is actually sealed to the pipe with clay.

5.50. Cross-armed crucible tongs are brought into the courtyard. Their length varies from 3'10" to 4'8" and their fulcrum is located so as to allow maximum tightness when holding the crucible. Their ends are semicircular so as to fit perfectly the shape of the crucible almost all the way round. Glowing coal is transferred from the furnace receptacle to the kiln receptacle in order to reach a higher firing temperature.

5.55. The coal in the furnace receptacle is burning with a flame 2' high, undoubtedly because of the pressurized draught from the electric blower.

6.00. The crucible containing the metal is placed directly on the coal in the furnace and a brick chamber is built around it.

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\* This fuel is imported from India. It has probably replaced wood or charcoal, the former still now being used for firing models (cf. Alsop and Charlton, 1973: 38). Coal is not found in Nepal (Imperial Gazetteer of India, 1908: 119), and does not appear in the lists of imports from India, Tibet and China during the XVIIIth and XIXth centuries. Coal deposits exist and were exploited in eastern Tibet, at Li-thang and other places (Duncan, 1964: 19; cf. Saunders, in Turner, 1800: 406; and Cooper, 1871: 463).

The chamber is one brick thick and leaves the upper portion of the crucible visible. Copper pieces stick out of the crucible to a length of 6". The crucible is not fixed in position, but just rests on the coals, whose level is continually topped up.

6.10. A convex iron lid is placed over the furnace chamber. Charcoal is added to the receptacle of the kiln and moulds are placed on it for firing. Their clay will have to be brought to a temperature close enough to that of the copper's melting point ( $1083^{\circ}\text{C}$ ) to prevent the metal from starting to solidify half way into the mould, and the mould itself from cracking during pouring. No thermometer or other form of mechanical temperature control or measurement is ever used by Newar sculptors even today.

6.12. Blue flames 6" long spit horizontally from beneath the furnace lid.

6.17. The lid is red hot and four sheets of scrap copper reduced to equal size are put around it, leaning partly on the lid and partly on the chamber's temporary brickwork. More copper scraps, mostly sprues recovered from previous castings, are beaten, and coal is hammered into fragments.

6.20. The kiln receptacle is filled, but not topped, with coal, and a slate is put as a roof over its three walls, while a temporary wall of bricks and clay is raised in front of it to seal off the moulds in a chamber. The scrap copper sheets which were being heated on the top of the furnace are hammered with the help of pliers to a size to fit the crucible.

6.28. The furnace lid is so red as to appear almost transparent. A large clay bowl, measuring 7" in height and 1' 8" in diameter, is filled with water in preparation for cooling the moulds after casting.

6.35. The position of the crucible is adjusted with a long iron bar through an opening in the temporary chamber wall, and the lid lifted. The copper in the lower portion of the crucible must have started melting because the level of the red hot copper scraps visible in its upper portion has dropped. They are further pressed down with an iron bar. Small copper scraps are poured into the crucible from a ladle,  $3\frac{1}{2}$ " in diameter and  $10\frac{1}{2}$ " long, provided with a wooden handle.

6.37. The crucible is red hot and more coal is added to the chamber by hand, as is always the case. Both coal and scrap copper are carried in buckets.

6.45. The furnace lid is lifted to add more scrap copper to the crucible. After removing part of the temporary front wall, Rajesh puts five more moulds into the kiln and tops it up with charcoal.

6.50. The bricks are put back and the flames in the kiln receptacle are fanned with a piece of straw matting.

7.10. The furnace lid is lifted again to add more bits of scrap copper.

7.20. More charcoal is added to the kiln chamber.

7.35. The coal level in the furnace chamber is topped up too. The kiln is fanned again.





78. Removal of Nhuche Raj Sakya's Vaikuṇṭha from its clay mould. Oku Bahal. March 1973.



7.40. A two-layer high brick wall is built on the ground in the porch in preparation for supporting the fired moulds.

7.45. The temporary front brick wall of the kiln chamber is dismantled and the fired clay moulds are placed on the ground, leaning against the two-layer brick wall. They are red hot and stand upside down with the sprues' tripod upwards, ready to receive the molten metal.

7.50. The copper is molten and casting begins. Rajesh stirs the molten copper with an iron bar before pouring it into the tripod's head in order to test the evenness of the fluidity of the metal. A certain amount of spilling can be noticed, probably because of the circumstance that glazed crucibles are open, and thus difficult to handle. No precaution is taken to ensure that the air escapes from the moulds and, as a consequence mis-castings are not rare, as I could see the following day, when the sprues were sawn off the bottom of the copper statues and parts of statues.

From the timings above, it appears that it took one hour and fifty minutes for the copper in the crucible to melt and one hour and thirty-five minutes for the clay moulds to be fired. The molten copper is allowed "to cool and harden for about fifteen to thirty minutes. The cooling is speeded by pouring cold water over the mold, which emits huge volumes of steam. Finally the entire mold is placed in a large jug of water to complete the cooling process." (Alsop and Charlton, 1973: 39).

The casting operations were not very different to those of brass casting, as I had observed them in Sanu Kaji Sakya's

house (see ch. II, p. 79) on September 12, 1978. Preparations started there at 4 p.m. Both his kiln (2'4" x 2'4" x 3'4") and his furnace (3'1" x 3' x 4'4") are located in the porch adjacent to the courtyard. Sanu Kaji's furnace is larger than Kalu Kuma's and is provided with a 5½" x 5½" draught window at 10" from the floor. The sculptor and his assistants were casting medium size images of Vajrapāṇi, Amitāyus and a Burmese style Śākyamuni: lotus stands, bodies and head-dresses were cast separately. The crucibles were 9½" high, with an oval shape, completely sealed and provided with a short spout protruding from the lower section. These crucibles are made by the artists themselves and, according to Krishnan (1976: 31), withstand only one melt. After the crucibles were heated enough to allow the brass to melt, they were removed from the furnace and their spouts perforated with an iron rod. Brass melts at a lower temperature than copper and it appears more fluid and easier to cast: the molten alloy was cast into sprue tripods without the spilling noticed at Rajesh's casting.

v) Removal from mould

After casting, Sanu Kaji dropped each hot clay mould into a brass basin full of water, with considerable steaming and bubbling. The moulds were kept in the water for a few minutes and then taken out to be broken with an iron bar (cf. 78 Labriffe-Aris, 1973: fig. XII, opp. p. 189). The fired clay 79 came off the metal statues easily and, as is to be expected with brass, Sanu Kaji's casting had a higher rate of success than Rajesh's copper one.

79. Casting tools.  
Note the crucible  
ring tongs (No. 3)  
and the iron bar  
used to break the  
moulds (No. 1. See  
p. 215).



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80. Polishing the cast.

vi) Cleaning up and assembling the cast

After removing the clay from the casts, the sprues are sawn off the statues or parts of statues, which are then cleaned and polished for hours with the help of files (cf. Labriffe-Aris, 1973: fig. XIV, opp. p. 190), sandpaper and rags. None of the operations ii-vi has to be performed by the artist, although most sculptors do their own casting. 80

Finally the statues are assembled by means of crimping and rivetting. The back of the neck, shoulders and wing attachments of Kalu Kuma's Garuḍa provide a good example of crimping combined with rivetting and dovetailing: the head is held in place by fitting it between the shoulders and driving a rivet between the shoulder-blades into the neck. The neck ornaments conceal the junction and the continuation of the neck into the shoulders and make the rivet hardly noticeable. 81

A break in the dovetail joining the right wing and shoulder-blade of the Aniko Collection Garuḍa (No. 119) reveals that the wing is also provided with a peg, which is inserted into a corresponding hole in the shoulder-blade. The latter type of fitting is always used to join medium or large size figures to their stand or vehicle: their feet or bottom are provided with pegs which fit into corresponding sheaths in the stand or vehicle. An early example of such pegs is 74

provided by the four-armed Viṣṇu illustrated by Singh (1971: 224-5). Similar fitting techniques have been traditionally used also for statuettes. A XVth-XVIIth century image of Śiva and Parvatī sitting on Nandi (Victoria and Albert Museum, Reg. No. I.M.89-1937) reveals how Śiva is secured to the bull 82





81. Crimping, dove-tailing and rivetting on the back of Kalu Kuma's Garuḍa.



82. Pegs, sheaths and date appearing inside the single-lotus stand of Kalu Kuma's "Prachanda Beer".

by means of a peg and the latter is rivetted to the single lotus pedestal. Parvatī is cast separately thus bringing the number of pieces cast separately for a single statuette to four. The same considerations apply to a group of XIXth century Newar medium and small size gilt copper statues of Mañjuśrī studied by Sipra (1968: 45 and 51) and firmly dated by their inscriptions. The use of different components for the same image has the advantage of reducing to a minimum losses due to mis-casting, besides allowing the sculptor to model wax surfaces relatively easy to handle. This method was also used by northern Indian sculptors and we know that the Sultanganj Buddha (see ch. VIII, pp. 116-7) was made in several sections, the hands and feet having been solid-cast separately. Newar and Tibetan sculptors adopted the same device as may be seen from a c. XIIIth century gilded copper image of Maitreya, cast in four pieces by the lost-wax process and regarded by von Schroeder as an example of the Sino-Newar school of Aniko (Uhlig, ed., 1971: 168-9, No. 95). The Xth century Tibeto-Newar gilt copper Tārā, 36" high, illustrated and ascribed by Kramrisch (1964: 70-1, No. 26) to the end of the XIVth century, is made of several parts crimped and rivetted together at the waist, base of the neck, arms, etc., including the crown and lotus flower, which were also separately made. Separate casting is favoured for both medium size and large images, but is frequently used to cast the stand, vehicle, aura, halo and some attributes of smaller statues, too, sometimes in different alloys or metals, according to circumstances and taste. Although specialists in



Tibetan and Himalayan art tend to be suspicious of figures whose metallurgical analysis reveals a metal composition different from that of the stand, the aura or the halo, it should be noted that such differences are not necessarily evidence of forgery or restoration work. Because of the relatively primitive Himalayan casting technology, brass alloys, for example, may reveal different copper, zinc and lead percentages even within the same cast, and appear red or yellow accordingly on the very same surface. Furthermore, auras and stands may be cast days after the figure they belong to for a number of reasons, including labour organization conditions, availability of metal, delays due to weather conditions or time of the year (Newar metalworkers are extremely reluctant to work during the numerous festivals of the Newar calendar), and mis-casting. Labour organization is probably the most important factor in the variation of metal composition for different parts of the same image. The parts of statues may be manufactured in bulk amounts, because "the high degree of specialization plus the varying nature of orders received necessitates at times the laying-up of stores of semi-finished ware. Tiers of hands, torsos and ears, lotus flowers and stalks may thus pile up on the shelves pending their use at some time or another." (Montell, 1954: 154). Though the above statement refers to the production of Lamaistic sculptures in China at the beginning of this century, and does not strictly apply to the organization of labour in present-day Newar workshops, it is true that the various parts composing one statue may be cast by Newar artists on different occasions and with alloys with varying proportions



82A. Padmasambhava. Tibet. XVth century. Copper and brass. 10 in. (25.5 cm.).

of metal. Because of the use of scrap in the alloy, it should not be surprising that brass castings of different parts of an image at a distance of a few days in the same workshop may give significantly different results in the composition of the alloy. Furthermore, one should be aware of the fact that the percentages of metal composition may vary at different points within the same casting.

Availability of metal and taste may also account for the use of different metals for different parts of the same image, as is the case for an XVIIIth century Tibetan copper statuette of Na-ro-mkha'-spyod-ma dancing on a brass pedestal (British Museum Reg. No. 1905.5.19-11) *and for an* XVIII-XIXth century Ṣaḍakṣarī illustrated by Waldschmidt (1969: No. 39) and Werner (1972: 211, fig. 31). The same applies to other pieces, like the ~~XVI-XVII~~ XVIIth century Tibetan copper statue of Sitatārā sitting on a brass stand, whose analytical results are reported in chapter III (p. 120, British Museum Reg. No. 1880.126), the XVth century 10" Tibetan statue of Padma-sambhava illustrated in Christie's catalogue "Wat" (February 82A 19, 1980, p. 19, No. 79) and various other pieces. Although the possibility of later restoration work cannot be excluded to explain the use of different metals in the same image, it is important to stress the role played by chance and taste in composite metal statuary from Tibet and the Himālayas. The same observations apply to original restoration work, where different metallurgical data from the same statue only prove that time has elapsed between the first and second casting, but cannot quantify it, whether in terms of days or centuries, unless other evidence is available.





83. Manik Ratna Sakya chasing Rajesh Kuma's Prthvī.  
Pātan. September 1978.



84. Chaitya Raj Sakya  
chasing Man Jyoti  
Sakya's Klong-chen-pa.  
Pātan. September 1978.

With the polishing of the cast, the task of the sculptor is completed, for those of chasing, engraving and inlaying belong to the chaser, who also seals the statue with a plate of hammered copper sheet\* and may inset semi-precious stones where necessary. Although the first two operations are decisive for the final appearance of a metal image, their techniques and tools (cf. Dagwab, 1977, II: 51-3, Nos. 67-9, 71; and Montell, 1954: 150-54) are rather different from those of a sculptor, and their study, as well as that of statuary embossing techniques\*\*, deserves the attention of a study of its own. Suffice it to say that the chaser gently beats the surface of the cast with the aid of a little hammer and punch before 83 engraving it with a hammer and chisel. Copper is soft and 84 relatively easy to chase and engrave, whereas brass is hard and brittle and few chasers bother to challenge that medium with more than an average performance, though such was the case for the brass Vasudharā studied in chapter II (p. 99). Copper 55 is also more suitable for mercury-gilding than brass, particularly the leaded brass commonly used by Newar metalworkers, which in any case requires treatment of the surface previous to heating for gilding purposes, in order to avoid zinc sublimation. The materials used for inlay work are usually silver and gold for copper, and copper for brass. Gilding is

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\* This operation follows the consecration of the image, when such is the case (cf. van Manen, 1933: 106-110).

\*\* Embossed copperwork was widely used in Tibet and Nepal, particularly for the manufacture of large images. The Jung Ho workshops in Peking played an important role in supplying Tibetans and Mongols with large numbers of embossed copper and gilded copper statues until at least 1932 (cf. Montell, 1954: 143-156). One of the earliest known examples of Newar free-standing embossed statuary is probably the XVIth century Tārā mentioned above (p. 217. Victoria and Albert Museum I. M. 239.1927).

seldom associated with inlay work, although I have seen one example of gold and silver inlay in a partially gilded copper statue of Dīpaṅkara (cf. ch. II, pp. 79-80). This practice finds an antecedent in at least one example of a post-Gupta gilded metal image, whose eyes are inlaid with silver (cf. Majumdar, 1926: 425).

#### vii) Gilding

Fire-gilding, that is, gilding by means of an amalgam of mercury and gold, is mentioned by Padma-dkar-po as being used in Tibet from the VIIth century (see ch. III, p. 191). However, textual reference on the subject is scanty and its technique is not described in detail by any of the Tibetan sources used for this introductory study. The Kubjikatantra, copied in Gupta characters in about the VIth century A.D. and mentioned by Rāy as belonging to the "valuable manuscript collections of the Maharaja of Nepal" (Rāy, 1956: 115), makes reference to the transmutation of copper into gold with the help of mercury. It is possible that mention of such a transmutation in Indian and Tibetan alchemical literature is merely descriptive of amalgam gilding. Mercury is referred to in connection with copper in the Rasāyanaśāstroddhṛti, a text which was translated and included in the Tenjur, and therefore, is previous to 1335. However, the translation from the Tibetan version of verses 17-18, concerning copper and mercury, by Suniti Kumar Pathak (cf. Rāy, 1956: 469, Nos. 17 and 18), who interprets them as if they hinted at amalgam gilding on copper, is, to say the least, excessively free. The word ~~for~~ gold does not even appear in the corresponding



Tibetan verses. It is likely that Tibetan artists were acquainted with fire-gilding from at least the XIIIth century (cf. ch. III, p. 121, Cat. No. 95). On page thirty, the Yuandai huasu ji ( see above, p. 202) records that an image was "adorned with Tibetan liquid gilding (...). This may refer to the technique where mercury is used, although this is also called fire-gilding." (Karmay, 1975: 23). It is possible that the method was already known in the VIIth century in Tibet, where it may have been introduced from Nepal, if we accept Padma-dkar-po's literary evidence and the mention of gold amalgam in contemporary Indian alchemical literature as at all significant. In the Nepal Valley, mercury-gilding has been used since the Xth century (cf. below, p. 227)\* and Newar artists have preferred that gilding technique on metal statuary almost to the exclusion of any other, even after 1979, when electroplating was first introduced into the Valley. The Newars probably derive that gilding technique from India, although few examples of gilded northern Indian statuary have survived\*\*.

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\* Still in the XVIIIth century Kirkpatrick (1975 repr.: 210) noticed that the Newars "gild exceedingly well".

\*\* Majumdar (1926: 427) assumes that the 2' 9" standing Mañjuśrī excavated in the ancient city of Mahasthan (Bogra District, Bangladesh) was mercury-gilded. However, he contradicts himself in regarding the image first as "not earlier than the Pala period" (Majumdar, 1926: 425), then ascribing it to the Gupta period (*ibid.*: 426-7). Antiquities found at Mahasthan indicate that the city flourished during both periods, but in view of the very few metal images which can be unquestionably assigned to the Gupta period, it is safer to assign the statue to the post-Gupta period. Khandalavala (1950: 25) suggests that "the practice of gilding Nepalese copper images is also borrowed from Pala metal sculpture where gilded images are frequently met with".

This gilding method became very popular in the Nepal Valley probably for aesthetic, religious and practical reasons, for the gilding of Hindu and Buddhist copper images. Gilding "has remained the sine qua non for Nepali metalwork, whether free-standing images or repoussé plaques (...) Indeed, gilding in Nepali art was as important as it was in medieval Christian art in Europe" (Pal, 1974: 33). However, there is no evidence that all copper statues from Nepal were gilded or were meant to be gilded (cf. ch. III, p. 123, No. iv).

Parcel-gilding appears in Newar statuary from at least the XVIIth century, sometimes for aesthetic purposes, sometimes as an economy measure, leaving the back of the image ungilded and painted red. This type of parcel-gilding became very common in Nepal in the XIXth and XXth centuries. The frontal part of the statue was entirely gilded, with the exception of the hair, and polished. Sometimes the main figure was gilded and its accessories left ungilded. Waldschmidt (1969: No. 39) and Werner (1972: 211, fig. 31) illustrate a XVIIIth-XIXth century Newar gilded image of Śaḍakṣarī seated on an ungilded throne with an ungilded ornamental back and canopy. This statue and all its parts were cast in brass (cf. Werner, 1972: 184-5, No. 173 a-c). Examples of mercury-gilded brass from an early period are less common, because brass started being widely used in Newar statuary only from the XVIIIth century, perhaps with the greater availability of zinc imported from the East India Company (see ch. III, pp. 161-162). Since 1959 parcel-gilding for aesthetic purposes has occasionally been carried out on

statues meant for the Western and Tibetan markets: parcel-gilding was common in eastern Tibetan and Sino-Tibetan brass statuary from at least the XVIIIth century onwards, and now Western collectors seem to appreciate it too. The jewellery and naked parts of a figure, with the exception of the hair, are gilded, and the garments, or parts of them, are left ungilded, or vice versa. That applies to both the front and back of the statue. Parcel-gilding in Tibetan and Newar repoussé metalwork has also been used in the last two centuries and is still very common, particularly in domestic and ritual objects meant for Tibetan customers.

In November 1979, Mavis Bimson, of the British Museum Research Laboratory, was able to observe the fire-gilding process on a copy of Jagat Man Sakya's copper *Dīpaṅkara* (see ch. II, p. 94). The statue was parcel-gilded, its stand and part of the garment being left ungilded. Although this process is described briefly by Dagyab (1977, I: 49), it may be interesting to supplement his few lines with a short description drawn from the notes kindly supplied to me by Mavis Bimson and Andrew Oddy, of the British Museum Research Laboratory. The gilding took place in Puspa Raj Sakya's workshop in an open room at the top of the house and was carried out by one gilder. The statuette, as it was received from the chaser, was immersed in a very dilute solution of nitric acid and then rinsed with water. Traditionally, the metal surface was prepared by cleaning it with ashes (cf. Jackson, 1976: 284). This served to remove surface films of oxide etc. which prevent mercury amalgamation with the copper surface. A small amount of mercury was ground with

charcoal in an oval stone mortar and thoroughly mixed. The mixture was rubbed onto the copper surface with the help of a small piece of rag and a slender metal rod, to reach its more inaccessible crevices. This process took about one hour. The surface was repeatedly rinsed in order to facilitate the process of amalgamation. Areas where amalgamation had not occurred were apparently rubbed with soya sauce before re-applying the mixture of mercury and charcoal. When this stage was completed, the casting had a very bright silvery surface (cf. Jackson, 1976: 284).

The amalgam of mercury and gold was prepared by grinding mercury and small pieces of gold foil in a mortar, and was kept under water in a small porcelain bowl. The proportions of mercury and gold used for gilding Dīpaṅkara were 22.5 tōlās\* and 5 tōlās respectively, giving a proportion of 9:2. The gold amalgam was applied in a similar way to the mercury-charcoal mixture and levelled with a hog's hair brush\*\*. At this stage, the statuette had a dull white surface. It was then left to stand for about ten minutes. The appearance of a green tinge in the amalgam layer on the surface indicated areas where amalgamation was not complete. If this happens, soya sauce is again rubbed on before applying more gold amalgam to the surface. Finally, a blowlamp was used to evaporate the mercury. In the past, however, the mercury

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\* See above, pp. 204-5, n. 3.

\*\* Dayyab (1977, I: 49) refers to the use of this brush to the stage preceding the application of the amalgam: "When the mercury has dried the surface is rubbed down with pig's bristle."

would be driven off by heating in a fire of cow dung (cf. Majumdar, 1926: 427) or some other "medium-heat fire" (cf. Daghyab, 1977, I: 49). The object would be "slowly heated gilded side up over coals to evaporate the mercury" (Jackson, 1972: 284).

After heating for a few minutes, the statuette was rubbed with cotton wool in order to improve the final appearance of the gilding. Heating then continued until the mercury was completely driven off, and the gilding assumed a dull mustard yellow colour. This matt gold was next burnished with an agate in order to produce a bright colour surface. The face, however, was not polished in this way and retained its matt appearance. Another burnisher, like a "smooth steel rod" (Jackson, 1976: 284), may be used to polish the image. In order to remove the marks of burnishing, the gilded casting was immersed in water and the surface was brushed with a fine brass polishing brush, using a soap-nut\* to create a mild foam. Finally, to improve the colour of the gilding, the statuette was pickled in the boiling extract of madder twigs\*\*, which was deep red in colour. This operation was rather long, and Bimson estimated that the whole of the fire-gilding process lasted three hours. If the object to be fire-gilded "is large, as for example a large copper statue, the gilding is done in small pieces, which are assembled afterwards" (Jackson, 1976: 284).

In 1976, T. G. Padley examined a few Tibetan and Himalayan images from the Department of Oriental Antiquities of the British Museum. His results, as reported by Oddy, are only provisional, as they are based on the qualitative analysis of the metals:

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\* Identified by the Jodrell Laboratory, Royal Botanic Gardens, as the fruit of Sapindus sp., and said to be a well-known soap substitute for washing clothes and bathing. Sapindus mukorossi Gaertn. is a handsome tree distributed in the Himalayan region of Nepal at 1200 m. (Suwal, 1970: 122).

\*\* See Denwood (1978 repr.: 20-1): "Most Indian madder is said to be obtained from Rubia munjista (cordifolia) alleged to contain only the colouring matter purpurin(....) There is a Himalayan species, R. sikkimensis. Madder is still produced in Sikkim, Bhutan and northeast Nepal." Rubia cordifolia is distributed in the Himalayan region of Nepal at 2400 m. and "the dye extracted from this plant is used for dyeing wool." (Suwal, 1970: 110).

## Mercury-gilded copper

Reg. No. 1971.9-25.1. Vasudharā. Nepal. XIIth century.

## Mercury-gilded copper alloys

Reg. No. 1967.7-13.1. Maitreya. Nepal. IXth-Xth century.

Reg. No. 1928.5-15.1. Amitābha. Nepal. 1740.

## Mercury-gilded brass

Reg. No. 1965.6-14.1. Avalokiteśvara. Nepal. Xth-XIth century.

Reg. No. 1953.7-20.1. Kuvera. Nepal. 1659.

Reg. No. 1952.11-21.1. Mañjuśrī. Nepal. 1819.

## Mercury-gilded bronze

R. L. File No. 3439 (examined in 1974). Standing Buddha.  
Nepal or Tibet. VIIth-XIIth century.

Padley and Oddy's report appears to confirm the suggestion that mercury-gilding is not limited to copper statuary, but may also be used on brass. Newar artists are certainly aware of the difficulty of fire-gilding brass (see ch. III, p. 123, No. v), but it is likely that they were acquainted with the problem from an early period. Tibetans probably learnt from them, as is suggested by a fire-gilded Śākyamuni dated c. 1500 (Uhlig ed., 1979: 180 and 183, No. 107). The alloy of that image contains only 0.16% lead and 8.40% zinc. The low percentage of these two elements in the brass alloy may be explained by their behaviour when heated during the fire-gilding process. Lead melts at 327.4°C and zinc at 419.5°C, and consequently both are lost from the surface of a leaded-brass alloy when it is strongly heated. If the



heating is part of a fire-gilding process, the lead and/or zinc react with the gold to leave white spots on the surface. The Newar brass *Ṣaḍakṣarī* analyzed by Werner (1972: 184, No. 173a) and containing only 0.1% Pb and 16% Zn must have been fire-gilded on a low heat, such as that produced by the combustion of cow dung. In both cases the artists were aware of the fact that leaded brass cannot be used for fire-gilding purposes.

Cold gilding is mentioned by Padma-dkar-po as being used to gild the statues of kings during the period corresponding to the VIIIth century (Padma-dkar-po, 1973, I: 301, l. 3). Cold gilding may be done by the application of gold leaf to the surface of the statue, either by burnishing it on, or by using an adhesive. It seems, however, that the most common technique used for cold gilding statues is in fact painting. Traditionally, gold paint is prepared by binding ready-made lentil-shaped drops of gold dust with glue. The exact method of preparation of those drops is still a guarded secret known only to the Newars, and even in Tibet a few Newar goldsmiths residing in Lhasa monopolized its business. The names of their establishments "were well known to the painters of Central Tibet." (Jackson, 1976: 232). However, one way of making finely powdered gold is by cutting paper-thin gold sheets into small ribbon-like strips, mixing them with bits of powdered stone and glass, and grinding them with a little water (Dagyab, 1977, I: 45).

Cold gilding is particularly suitable for statues made

of materials other than metal, and the XIV th century (cf. Snellgrove and Richardson, 1968: 154) clay (cf. Stein, 1962: 247 and pls. opp. 246) groups of Srong-brtsan-sgam-po and his two wives preserved in the Potala and the Jo-khang (cf. Sís and Vaniš: 133 and 147-9) are certainly gilded by that technique. Gold paint is still used by Tibetan and Newar artists to give the faces and necks of images meant for Tibetan shrines their characteristically dim golden colour. This practice is very common in Tibetan metal statuary, whether fire-gilded or not, and in the former case the gold paint is applied to the mercury-gilded surface of the face. A rare instance of a combination of cold and fire-gilding on the body of the figure is represented by the Victoria and Albert Museum Tibeto-Newar Tārā mentioned above (pp. 217 and 220, n. 2) where the lower section is fire-gilded and the upper one entirely cold-gilded. Finally, I should mention the use of gold as an offering in statuary metals, as is revealed by Himalayan copper and brass images with a gold percentage higher than about 0.005% (cf. Werner, 1972: 146-7, table 9.6, Nos. 167, 173 and 208). The 25 cm. brass statuette of Śaḍakṣarī studied by him and Waldschmidt (see above, pp. 219 and 223) has a gold content of 0.130%, although it is not clear whether the result of the analysis may have been biased by the circumstance that the main image is actually gilt. The back and stand of its throne have only 0.012% and 0.008% Au in the alloy. However, the detection of pieces of gold sheet beneath the surface of a few thang-kas examined in recent years by Robert Bruce-Gardner of the Courtauld Institute, by means of an infra-red viewer, suggests that gold may have been similarly added to statuary metals for purely

religious reasons. It is possible that this circumstance contributed to the creation of the myth of the "octo-alloy" (see ch. III, pp. 109-110).

Ungilded copper images are finished with other substances. The tradition of waxing metal images is very ancient in Tibet and may be owed either to aesthetic reasons or to the realization that it was a good method of preventing oxidization. From Padma-dkar-po (1973, I: 300, l. 6), we know that fire-gilded images at the time of king Srong-brtsan-sgam-po were smeared with byo rtse (for: "byo rtse"), a term translated by Tucci (1959: 185) as "resin or greasy material". Again, the statues made during the reign of Khri-srong-lde-brtsan "were smeared with byo rtse" (Padma-dkar-po, 1973, I: 301, l. 2). Elsewhere, we learn that Chinese statues made during the Ming dynasty "were actually smeared with zho rtse" (Padma-dkar-po, 1973, I: 304, l. 5), literally "curds varnish", although Tucci (1959: 186-7) translates the corresponding expression from his anonymous manuscript as "red". Mustard seed oil and even shoe polish are often smeared on Newar copper images in order to confer on them a patina, and not necessarily for the purpose of antiquing them.

### Antiquing

The antiquing of images in the Nepal Valley started in the nineteen-sixties as a result of the growing demand for Tibetan and Himalayan antiques in the Western art market, and it is now carried out by a handful of specialists in Pātan and Kathmandu. The artificial ageing of works of art is forbidden in Nepal and this makes it very difficult for the researcher to get in touch with professional forgers who, in any case, are not ready to disclose their trade secrets. Some artists

like Kalu Kuma and Bodhi Raj Sakya (see ch. II, pp. 88 and 76), have tried to mark their images in order to avoid trouble with the Department of Archaeology of Nepal, which issues the export permits and seals necessary to take all art works, whether old or new, out of the country legally: the export of items over one hundred years old is forbidden. However, that does not prevent some Newar and Western dealers from having a large number of the statues bought from artists artificially aged\*. Various methods of antiquing have evolved during the last two decades. In the nineteen-sixties, dealers were generally happy with darkening brass images by heating them at a high temperature, thus obtaining a black patina on the metal surface. Labriffe-Aris (1973: 192) mentions heating over oil lamps, but I doubt that such a method was ever popular, for the soot would come off the metal surface easily and stain the hands of any potential customer, thus defeating its purpose. I understand, however, that a similar method was used to antique paintings. Occasionally oxidization is induced by smearing the statue with acids and Labriffe-Aris (1973: 192) maintains that some statues were smeared with a mixture of lemon and salt and kept in a damp place surrounded by cloth for a period varying from six to twelve months. She also mentions another method, consisting of besmearing the statue with liquid manure, ashes, salt and cow dung and burying it in earth for a year, in order to obtain a verdigris surface. However, such relatively primitive methods of oxidization are now seldom used, perhaps because

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\* Cf. chapter II, pp. 75-6 and 87-8.

collectors have realized that ancient Tibetan and Newar metal images are not excavated from archaeological sites, but come from temples and shrines where they are reasonably well kept and oxidization is minimal: "even if the gilding has worn off, usually the bronze acquires a dark patina, and the surface may betray signs of erosion or else assumes a velvety-smooth texture and a copper-red sheen. Since most Nepali bronzes appear to have been used continuously or were tucked away in the attics of monasteries, they rarely attain the green patina that is characteristic of bronzes dug up from the ground - a fact well worth remembering by the aspiring collector" (Pal, 1974: 32-3). A verdigris or black surface on any Himalayan statue is almost certainly the result of forgery. In some cases, forgeries are not made complete with all their parts in order to give the impression of loss due to age, and, by comparison with current high standards of craftsmanship, their polishing and chasing is relatively crude.

During my stays in the Nepal Valley in the nineteen-seventies, I made several cautious attempts to get in touch with professional forgers, but only managed to create suspicion and fear among my informants. Although antiquing methods vary, they may be reduced to two basic techniques: rubbing, and heating with a chemical agent. Rubbing is carried out for days and days with cloth which may be imbued with any kind of greasy material, including milk, and incense, to give a more convincing appearance of "genuineness". The heating of mercury-gilded images smeared with salammoniac\*

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\* Ammonium chloride ( $\text{NH}_4\text{Cl}$ ). Nepal imported it from China from at least the XVIIIth century (Hamilton, 1819: 212).



85. Christie's "highly important Chamba bronze figure of Vishnu as Chaturvyuha" dated to the "10th/11th Century". Nepal. Copper. 21½ in. (54.6 cm.).



partially destroys the gilding, but gives the effect of mild corrosion which still now successfully dupes many buyers of Tibetan and Himalayan antiques. Finally, vermillion and other ritual substances may be smeared on the forehead or other sacred parts of the statue to add the final touch of "authenticity" to the image, as if it had just been snatched from the altar. The most sophisticated methods of antiquing are used for statues which sculptors are especially commissioned by Western dealers, on the understanding that no other images will be produced from the same "thāsā". A model produced in one or two copies is obviously more expensive and I understand that the professional artificial ageing of a statue may cost up to 100 U.S.dollars, but the investment must be worthwhile, for dealers are ready to pay the money.

A good example of how lack of knowledge and systematic study of the production and techniques of present-day Newar sculptors and chasers may dupe Western experts is provided by the "highly important Chamba bronze figure of Visnu as Chaturvyuha" dated to the "10th/11th Century" and sold at Christie's on December 11, 1973. In my opinion, that statue is a badly chased copy of Nhuche Raj Sakya's Vaikunṭha studied in chapter II (pp. 82-5). The first striking similarity concerns the almost identical base, with three rectangular holes cut in it to house the pegs of the attendant figures. Christie's Vaikunṭha's stand is not chased. The second disturbing similarity is the size of the two statues, c.21½". Their third common feature is the material, copper. Finally, proportions, posture, garments, ornaments and iconography are identical in both images. Of course, there are minor

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40,41,86



86. Vaikuntha. Nepal. 1971 . Copper inlaid with silver.  
21 $\frac{1}{2}$  in. (55 cm.). Aniko Collection.

differences of workmanship, easily accounted for by the circumstance that the number and variety of "thāsās" used to manufacture the same image allows for a certain freedom in the final appearance and disposition of the ornaments. Furthermore, Christie's Vaikuṇṭha is not inlaid, probably because the customer who commissioned it must have decided not to go through the trouble and expense of producing as fine an image as the Aniko Collection one. The chasing on Christie's Vaikuṇṭha is differently and not very well executed, and that accounts for further dissimilarities between the two pieces. The same statue given to two different chasers varies greatly in its final appearance, and we have seen (ch. II, p. 99) to which extent a chaser may contribute to it. However, a few clues *might* have helped Christie's experts to be more suspicious of the age of their Vaikuṇṭha: the iconographic oddity of a bull's head\* replacing the traditional demon's head; the circumstance that only the face had traces of fire-gilding; the presence of inset turquoise in a "Chamba" statue. Indeed, a note to the caption on page 69 of Christie's sale catalogue (December 11, 1973) suggests, not far off the mark, that the "statue may have been ordered by a Nepalese donor in Nepal, faithfully copying the Hari Rai image". However, the caption itself unequivocally describes the image as a "Chamba bronze".

A bit of good sense should make Western collectors suspicious of black, verdigris or corroded metal images, for anyone who is familiar with Tibetan statues ought to be aware of the generally good state of preservation of their surface, which in any case would not be stained by vermilion or other offerings. Tibetans have a less physical contact with their

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\* Buffalo head, according to Nhuche Raj Sakya (see ch. II, p. 83).

images than Newars do and seem to regard the direct application of offerings to their surface as not far short of sacrilege. A good example of conflicting Tibetan and Newar attitudes towards Buddhist images kept in Tibetan monasteries of the Nepal Valley is provided by Kuber Singh Sakya's 12' Śākyamuni 10 (see ch. II, pp. 56-7) which had to be encased with glass panels around 1975 in order to protect it from the offerings thrown at it by Newar religious devotees. Drier climatic conditions in Tibet\* also contribute to the better preservation of metal images there than in the Nepal Valley, where they are exposed to the intense dampness of the monsoon\*\*. Thus, as a rule, Tibetan antiques are better preserved than forgers would have us believe. The problem of establishing whether Newar metal images are ancient or recently made is sometimes more difficult. Newar statues are quickly worn by frequent worshipping and the organic ritual substances deposited on them do not provide a clue to dating by chemical or carbon-14 analysis because their recent application is perfectly justified by the fact that the same images have been constantly worshipped to this day. Furthermore, it is doubtful that antiqued gilded images will retain sufficient traces of ammonium chloride on their surface to be detected by chemical analysis. It is likely that the growing demand for Himalayan antiques will lead to the perfection of artificial ageing methods, particularly as far as Newar statuary is concerned, and

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\* The total fall of rain and snow over most of Tibet is less than 10" per year.

\*\* From July to September the Valley receives most of its annual rainfall of 50" to 55".

especially where those methods are encouraged and supervised, when not practised, by Western dealers.

### Conclusions

Leaving aside the problem and methods of forgery, it appears that very few technological innovations have occurred in the statuary techniques used by XXth century Himalayan sculptors. They still manufacture their own modelling tools and model clay and wax in a traditional manner. Their investment techniques may *find a parallel in* the use of various grades of clay as mentioned in Indian texts such as king Bhūlo-kamalla Someśvara's Mānasollāsa, a manual composed in the Deccan in 1131 (Saraswati, 1936: 1). That *particular* text also specifies that the ratio of brass and copper to wax should be 10:1 or, according to a variant reading, 8:1 (Saraswati, 1936: 143). Apart from the use of coal, the only improvement made in firing the mould and melting the metal is the use of electric fans and blowers, instead of bellows, by some sculptors. No innovation has been brought about to solve the seemingly more difficult problem in casting, namely the measurement of the temperature of the clay mould before pouring the molten metal into it. Artists obviously feel confident enough to trust their own experience rather than thermometers.

The separate casting of parts of the same statue is not a novelty, as is shown by the above-mentioned instance of the Sultanganj Buddha (see above, p. 217; d.III, pp. 116-7). Occasionally medium size statues, whether hollow or solid, may be cast in one piece (cf. Alsop and Charlton, 1973: 38). A few minor changes have occurred in the fitting techniques:

pegs tend to be bigger than in the past and can no longer be bent, as they used to be. This is understandable in the case of medium and large size statues, but, nowadays, even statuettes are assembled with thick pegs and have to be lifted from the bottom, for the stand cannot be secured to them. However, examples of unsecured stands in ancient statuettes are very frequent, too.

Brazing and silver soldering are nowadays used to repair minor mis-castings and both techniques appear to have been recently introduced in Newar statuary. However, chasing, inlaying and gilding\* are still carried out with the traditional techniques and it may thus be safely concluded that Himalayan sculpture in the nineteen-seventies thrives on a technology which is centuries old.

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\* See above, pp. 224-6.



Chapter VTHE SOURCESIconography

The Newar pantheon is so complex and sometimes puzzling that no iconographist has so far endeavoured to treat it in a systematic way. The number of local variations on the same iconic type is so great as to justify, for example, the publication of monographs such as the one by Pal devoted exclusively to the Vaiṣṇava iconology of Nepal. Hinduism and Buddhism have co-existed and overlapped in a process lasting for centuries, and their icons can be seen side by side everywhere in the Nepal Valley. Buddhism shares many of the Brahmanical divinities, to which it has assigned secondary roles, in India, Nepal and Tibet. The inclusion of deities which have traditionally come to be regarded as Brahmanical in the Buddhist pantheon was part of a larger historical process in which Buddhism incorporated Brahmanical ideas and practices. If we accept that "there is nothing that need appear from the point of view of later Buddhist tradition as an heretical intrusion" and that "the Buddhist tradition (...) was sufficiently strong to absorb and transform these new notions, enriching itself in the process" (Snellgrove, 1959: 211), we should regard the consequent growth and changes in iconography as part of a vital process, rather than unorthodox or decadent. It may be useful to remember that whereas Christianity maintained fairly effective control over its iconographic developments during most of its history,

often the only check in Buddhist iconography was the living tradition itself. Indeed, "Buddhism was clearly incorporating all the time notions which the very earliest śrāvakas might have considered unnecessary, if not altogether erroneous" (Snellgrove, 1959: 211). Hinduism drew very little from Buddhism, although Buddha was accepted into the Hindu pantheon as a form of Viṣṇu (cf. Lévi, 1905, I: 317 and 372).

A few good instances of changes in the development of the Buddhist pantheon in India are provided by Snellgrove's study of the evolution of a fivefold scheme of buddhas and bodhisattvas as "the deliberate expression" of a "centripetal conception of existence" (Snellgrove, 1957: 64 ff.), from the "original three-fold pattern" (Snellgrove, 1957: 65) of early Buddhism. Sets of buddhas and bodhisattvas were created to fit new philosophical notions and, for example, "the names of the sixteen buddhas of the Lotus of the Good Law have the appearance of being pure invention (...) They serve no other purpose beyond the perfunctory supplying of the requisite number of names" (Snellgrove, 1957: 59). Some of the divinities mentioned in religious texts never found iconic expression.

The number and fortunes of Buddhist and Hindu traditions and schools and the sheer bulk of religious literature and local folklore open up the possibility of accretion, deliberate change and even misinterpretation of the iconographic details of certain divinities. The Newars, for example, interpreted Ganesa's attribute of a broken tusk as a white radish (Gordon, 1937: 18) and their interpretation became tradition. After Buddhism in Nepal was cut off from its Indian sources

following the Muslim conquest, iconographic alterations occurred owing to the introduction of local lore, to the pressure of Hinduism, which enjoyed the social prestige deriving from the Mallas' royal patronage, and even to the misunderstanding of iconographic references in religious texts. In the Nepal Valley some gods, like Brahma, virtually fell into oblivion, while others, like Indra, were given a more prominent role. Others, like Viṣṇu, acquired a variety of new forms. Local minor gods, such as those freeing from specific diseases or aches, were introduced. Saints, like the yogin Matsyendranāth, were deified, and temples erected to them. In Tibet, new sets of divinities, like the sthaviras, were introduced probably from China, and others like Kālacakra, from India. The yogin Padmasambhava was deified and given the rank of a Buddha and, since then, a number of holy men have found a place in Tibetan iconography.

Although it is unlikely that new divinities will enter the Tibetan pantheon from the composition of new religious works, new icons portraying holy men and teachers will continue to be included into it for as long as the Buddhist doctrine is taught. The historical process which caused a number of saints to become part of the everyday Tibetan pantheon through a millenium of history has not been stopped yet. Thus we find not only Padmasambhava, but also Atīśa, Tilopa and his lineage, Tsong-kha-pa and his disciples, Dalai Lamas, Panchen Lamas until the XVIIIth century and afterwards in the "Three Hundred Icons of Tibet", a Tibetan pantheon composed during

that period (cf. Olschak, 1973: 113 ff.)\*. We even find the author of its preface, Rol-pa'i-rdo-rje (1717-1778) included in the first set of xylographs. Tibetan iconographers seem to have a more elastic notion of what iconographic works should be than their Western counterparts do. Attributes, colours, number of heads, arms and legs are not always positive clues to the identification of icons in an ever-proliferating pantheon, such as the Tibetan one. Iconographic identification should take into account the religious texts whence particular divinities issue\*\*, the particular schools of Buddhist thought by which they are cherished most, the order or lineage to which they belong, and, when available, their inscriptions, besides other information gathered from iconographic sources. It should also take into consideration the circumstance that different schools of Tibetan Buddhism may assign a different rank to the same divinity.

Tibetan iconographies appear to differ from Western iconographies of the Tibetan pantheon in that they may limit themselves to listing icons and names of Buddhist saints and divinities, whereas the latter include written information on the attributes, gestures, postures, colours, and vehicles of each divinity, but tend to leave out the lineages of teachers of

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\* This pantheon was selected by the Grand Lama of Peking, the lCang-skye Hu-thug-tu, who was considered to be an incarnation of Rol-pa'i-rdo-rje (Waddell, 1971 repr.: 243-4), during the reign of the emperor Ch'ien Lung (1736-1795). It was first painted on three thang-kas of one hundred icons each and then a xylographic version "to serve as an iconographic manual (...) was made in 1800" (Burrows, 1970, n. 1-3).

\*\* If that were the case, the Western neologism "dhyani" Buddha would have long been abandoned. The term does not appear in any Buddhist text (cf. Snellgrove, 1957: 103).

the various orders. The struggle of Western iconographers to tackle the enormous task of ordering the Tibetan pantheon is similar to that of anyone facing the task of compiling a dictionary. A number of icons have to be left out. The iconographic types which suffer most from this kind of exclusion are the portraits of teachers and saints. By not recording them, Western iconographers come to present their material as a sequence of stereotypes, lose all historical perspective, and may give the impression of having said the final word on the identification of icons. Yet, we cannot become acquainted with Himalayan and Tibetan art by identifying its iconic types on the basis of iconographies any more than we may learn to speak a language by looking at words in a dictionary. The legendary material surrounding a divinity may expand through the centuries and its iconic type will be altered accordingly. The process is very slow indeed, but an understanding of it may help us to realize that northern Buddhist pantheons as systematized by Western iconographers are only the provisional picture of a process of slow, continuous and inevitable transformation. This notion is particularly important for the study of XXth century Tibetan and Himalayan art, which continues to evolve in a process which has not yet known any interruption.

Iconography plays an important role in our scholarly attempts to identify icons. How important is its study to the artists who make those icons? According to Krishnan (1976: 29), followed by Bhattacharya (1979: 67), Newar artists "claim that they use an ancient iconographic

text in Newari known as Yō Dekgō Sapuō as guidance for their work.". However, on the occasions of several interviews with the leading Newar sculptors in Pātan, I never heard mention of that text. My insistent questions of where the sculptors obtained their iconographic reference almost offended some artists. To understand why, I had just to look around myself: iconographic models are provided at every street corner and in all squares, fountains, monasteries and temples in the Nepal Valley, which has been declared by UNESCO as having "one of the highest monument densities in the world" (Morrow Lockwood, 1979: 16). No wonder that, after mentioning the Yō Dekgō Sapuō, Krishnan (1976: 29) admits that Newar artists "actually (...) carry on their work on the basis of their practical experience.". When asking major Newar sculptors for their iconographic sources, I sometimes noticed that my questions appeared very odd and sometimes even indelicate to them. They obviously did not understand my approach, which derives from a Western scholarly academic attitude, seriously concerned with the artists' respect for tradition and trusting written information more than oral information. However, if we were to be consistent and extend the same approach to Western religious art, could we really say that Ghiberti's iconographic sources are of great interest or importance in view of appreciating the artistic value of the "Gate of Paradise"? The artist's knowledge of such sources is taken for granted. In a similar way, Newar sculptors know their iconographic sources because they are part of their historical and cultural heritage. The artists are physically surrounded by religious icons. They were born among them, they grew up



with them, they worship them, and their details do not escape their attentive eyes\*. This situation has existed for centuries in Nepal and, for all practical purposes, very little iconographic literature existed apart from the iconographic references mentioned in religious texts. Artists did not draw pantheons, but preferred to sketch, for example, icons or motifs which may serve their purposes or happen to strike their imagination as being unusual or interesting. The early XVth century sketchbook studied by Lowry (see ch. I, p. 7) well illustrates the latter fact. A XIXth century sketchbook used by the XXth century painter Vishnu Bahadur Citrakar of Bhaktapur (Macdonald and Stahl, 1979: 143) shows that the tradition of using memory-aids has persisted through the centuries. That such is still the case is shown by the sketches owned by Man Jyoti Sakya (cf. ch. II, pp. 70-1 and Alsop and Charlton, 1973: 31 and 50). During his working life, Man Jyoti occasionally used sketchbooks for iconographic reference, some of which he lent to other artists and were never returned. In order to give an idea of the kind of iconographic sources used by Newar sculptors in the XXth century,

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\* After comparing an early XVIth century wooden Hayagrīva with a Newar paṭa dated 1531 (on Newar chronology, see ch. II, p. 57, n. 2), Pott (1971-2: 65) concludes that "the figures of the more important deities and their parivāra as depicted in older thangkas, were meant to illustrate famous sculptures or bronzes existing in the more important temples or religious centres, and not as more or less abstract forms to be conceived according to iconographical descriptions, however important those instructions may have been for religious purposes and practices. This conclusion is the more important as it teaches us that whenever we encounter representations on the thangkas from Nepal and Tibet of very important figures from the Buddhist pantheon, we may be sure that they were meant to depict concrete sculptures, venerated by devotees, and not reproductions from miniature illustrations in manuscripts, known only to specialists in iconography."

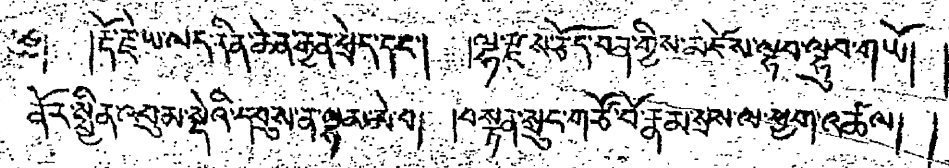
it may be interesting to list all those which were shown to me during and after my interviews with Man Jyoti Sakya in 1977 and 1978:

- i) A Tibetan xylograph portraying a siddha holding a kapāla surmounted by an amṛta kalāśa in his left hand. Another Tibetan xylograph portraying a siddha.
- ii) A Tibetan xylograph representing Jambhala sitting on a lion.
- iii) Two paintings of Hindu deities, one being Gaṇeśa, painted by a Newar Citrakāra. The Citrakāra caste includes painters of all kinds and decorators. Not all Newar painters are Citrakāra (cf. ch. II, p. 65).
- iv) Twenty numbered sketches, seventeen being bodhisattvas and three dharmapālas, drawn by an unknown artist.
- v) A Newar sketchbook drawn by a Citrakāra in September to October, 1942. The colophon reads: "Drawn on a Sunday in the month of Aswin 1999\* (and) belonging to Bikhu\*\* Mana". Ten of its twenty pages are illustrated by drawings, including: the om mani padme hūm monogram (p. 1); the eight dravyas, the so-called "auspicious" or "lucky" symbols of Buddhism (p. 2); the left side decoration of a religious box, including two lions, one dragon holding a pearl, one phoenix, one conch-shell, one kalāśa, all resting on an intricate floral pattern (p. 5); Chinese trigrams, pustakas, scarves, a stylized cloud,

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\* Vikrama year. See ch. II, p. 57, n. 1.

\*\* For: "Bikhum".



87. Ink drawing on transparent paper used by Santa Kumar Sakya to model his Vaiśravaṇa. Actual size.

and two crossed dagger sheaths (p. 6); the wheel of the doctrine (p. 8); the six jewels (p. 11); a bodhisattva (p. 13); a siddha (p. 15); an elephant carrying the six ratnas on its back, with a mirror on its head (p. 17); a horse surmounted by the dharmacakra (p. 18).

vi) A sketchbook of eighty pages, eight of which contain ink drawings of deities brushed by a Sherpa artist from Shar-Khumbu (see ch. II, pp. 70-1) who spent two months at Man Jyoti's house, in Pātan. The drawings include: Akṣobhya, drawn within a canonical iconometric frame; Vairocana; Amoghasiddhi (?), holding a kalasa in his left hand; again Akṣobhya; Ratna-sambhava; again Vairocana; Amoghasiddhi; Amitāyus; Śaḍakṣarī; Green Tārā, drawn within a canonical iconometric frame; Jambhala, drawn within a canonical iconometric frame; a four-headed Śamvara; Vajravārāhī; an eleven-headed Avalokiteśvara, drawn within a canonical iconometric frame; Padmasambhava, drawn within a canonical iconometric frame; and two different aspects of Uṣṇīṣavijayā. Thirteen more pages drawn by the same artist illustrate mostly lakṣaṇas and mudrās. The sketchbook contains eight more drawings by an inexperienced hand, perhaps that of a beginner.

vii) A very large (7'3" x 4') drawing of an eleven-headed Avalokiteśvara, brushed by the Sherpa painter mentioned above.

viii) A Tibetan sketchbook made of twenty-two cotton cloth pages measuring 8" x 8", with thirteen drawings of various deities, including: three Samvaras, ḍākinīs, Yamāntaka, Vaiśravaṇa, Buddha, etc. Two pages are written in Lantsa letters. The icons are very finely brushed with ink and their



ॐ । क्लीं ह्रीं स्वाहा नमः शिवाय नमः ॥ श्रीगणेशाय नमः ॥  
 नमो भगवते वासुदेवाय नमः ॥ ह्रीं क्लीं स्वाहा नमः शिवाय नमः ॥

88. Ink drawing on transparent paper used by Santa Kumar Sakya to model his Simhavaktrā dākinī. Actual size.

canonical iconometric patterns drawn in pencil are almost defaced.

None of Man Jyoti's sources may be regarded as a pantheon. The sculptor may have used them occasionally as memory aids, and other artists had access to them. The sketchbook copied by Jagat Man Sakya (see ch. II, p. 93) was probably the Tibetan one mentioned under No. viii. The circumstance that some of Man Jyoti's sketchbooks were borrowed by other artists and never returned shows that Newar sculptors do not only work by memory, but also appreciate iconographic references. Sometimes they use religious texts instead of drawings, as Bodhi Raj Sakya did on a couple of occasions (see ch. II, p. 77 ). We can thus conclude that Newar sculptors use the following iconographic sources: their surroundings, pictures, and books. It may be useful to note that sketchbooks may receive the special veneration accorded by Buddhists to religious texts as symbols of Speech within the frame of the trikāya. Man Jyoti, for example, jealously keeps his Tibetan sketchbook in his private shrine (āgama) and it is possible that it played a religious function even more than an iconographic role in Man Jyoti's artistic career.

The above threefold division of Newar artists' sources has been given in order of importance and should be qualified by the statement that Newar sculptors seldom use them. In case of doubt they can always resort to local learned men, as Siddhi Raj Sakya did when he was commissioned an order by the royal family of Nepal (see ch. II, p. 74). Often the patron or dealer commissioning the statue also provides the





89. Yamāntaka. Nepal. 1974. Fire-gilded copper. 9 in. (23 cm.). Collection E. Lo Bue.

sculptor with the necessary iconographic reference, as was the case with Santa Kumar Sakya when he had to model icons of Vaisṛavana and Siṃhavaṅktrā dākinī (see ch. II, p. 96). This has often been a standard procedure with more complicated or unusual deities (cf. Montell, 1954: 154 and 140, No. 6). Patrons tend to be more exacting than dealers with regard to the iconographic specifications of their orders. Kalu Kuma had to remodel the arms of an icon of Bhairava for the temple of Bāl Kumārī because he had fashioned a wrong mudrā (see ch. II, p. 92, n. 1). In the case of complicated or rare deities, if the patron or dealer does not provide iconographic sources, mistakes may creep in, sometimes at the chasing stage, which is not carried out by the sculptor himself. The backs of divinities are more likely to be misunderstood, mainly because their details seldom appear in iconographic drawings, and statues or texts illustrating them may not be available. A 9" gilded copper statue of Yamāntaka, made in 1974 by the Newar sculptor Dambar Sakya (b.c. 1940-1), was incompetently chased by Kem Raj Sakya (b. c. 1932-3), who interpreted the head of the elephant skin worn on the back of the yi-dam as a floral motif. There are precedents to this type of misinterpretation, as has been shown by the example of Gaṇeśa mentioned above (p. 239). Asa Sakya Pandit (b. 1938), the only artist met who had attended a regular art school in Kathmandu, omitted to model the two lotus flowers usually held by Green Tārā for a 3" icon of that deity which he made in 1973<sup>22</sup>. The reason for that omission was probably the difficulty of successfully casting the

<sup>22</sup> The statuette was cast and chased in the summer of 1978 by Mangal Narsingh Sakya (see ch. II, p. 100), who used an alloy made from copper, zinc and tin.



90. Tārā. Nepal. 1973. Copper alloy. 3 in. (7.5 cm.). Collection of the author.

details of such a small image, and it is true that some lakṣaṇas may be cast or embossed separately and fitted to the image after casting. Major sculptors are usually very attentive to all iconographic details, and iconographic mistakes are the exception. In any case, iconographic oddities are not rare in Newar art and Tibetan provincial art even previous to the XXth century. One instance is provided by the Kurukullā illustrated by Beguin (ed., 1977: 129 and 138, No. 113) and Trungpa (1975: 108-9, No. 41). Iconographic as well as iconometric imperfections and errors often creep into provincial Tibetan and Newar art. It seems that iconographic and iconometric inaccuracy largely reflects the standards of scholarship in the various areas and periods taken into consideration. Perhaps because Hindu and Buddhist scholarship have been in constant decline in the Nepal Valley over a period of centuries, Newar art appears to be more liable to iconographic oddities or unique iconographic types, owing partly to erroneous interpretations and partly to local developments (see, for example, ch. II, p. 68, n. 1 and p. 84). A study of the iconography of the astral divinities in Nepal shows how many acute dissimilarities exist with regard to the descriptions of their attributes and vehicles in the various texts concerned with them (see Pal and Bhattacharyya, 1969: 34-9). Other differences arise from the co-existence of a scholarly (conventional) and popular (unconventional) type of religion within the same cultural compound.

From the beginning of the XXth century, photography has provided Newar sculptors with a new iconographic medium. It is difficult to put a date to the first use of photographic sources in Newar statuary, but it is likely that the iconographic model for the neo-classic-looking lions made for the

second courtyard of the Rudra Varna Mahabihar in the nineteen-thirties (see ch. II, p. 58) was a photograph. Pancha Jyoti's "Arjamber Purus" and Śuddhodana (*ibid.*, pp. 58-9 and 15,16 63-4) were probably drawn from portrait photographs provided by the Ranas during that same period. The statue of Śuddhodana, leaning with his right elbow on a column supporting a pot of flowers, holding an open book in his right hand and the top of his sword's hilt with the left hand, seems to point to the use of a Victorian portrait\* as an iconographic source. Portrait photography and painting was known to the Ranas and their circles in the XIXth century as is illustrated, for example, by a few pictures in Lévi (1905, II: 141, 321, 333 and 349). The same occurred in Tibet (cf. McGovern, 1932: opp. 290). With the diffusion of printing material in Nepal, other kinds of photographic reproduction have become available to Newar sculptors. They are the pictures of icons individually printed by museums, such as the one used by Kalu Kuma to model his 2' Vajrabhairava (see ch. II, p. 91), as well as 72 illustrations published in Western art magazines, catalogues and books. Dealers and patrons tend to provide sculptors with photographic prints and reproductions for iconographic purposes, and Man Jyoti himself often worked from photographs (Alsop and Charlton, 1973: 31). The use of photographs for iconographic reference must not be regarded as a challenge

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\* I thank Mr. Rawson for drawing my attention to this suggestion. Portrait photography had become very popular in the West by the 1860s and quickly spread to British India (cf. Worswick and Embree, 1976: *passim*). The Ranas first visited England in 1850-1.



to tradition, but as a useful innovation which adds to, rather than diminishes, the artists' iconographic repertoire. It is merely the extension of the use of pictures, one of the three traditional categories of iconographic sources used by Newar sculptors, and the use of printing in the form of xylographs for iconographic purposes in Tibet and Nepal had already established a precedent from at least the XVIIIth century onwards.



### Iconometry

The history of iconometry is also a history of style and, although iconometric systems arise from a need of standardization and of preservation of tradition, "it would be a mistake to assume that theories of proportions per se are constantly one and the same" (Panofski, 1970: 82). The role played by their theoreticians appears to find a counterpart in that of grammarians. The latter dissect languages and fix them in artificial logical systems, excluding what may disturb their creations or including it as "exception" when they cannot avoid its recognition, and tend to record in a rather discriminating way the language of the educated classes, leaving out a great deal of the live material of sounds and signs produced by a vast majority of uneducated people whose primary concern is communication rather than the subtleties of grammatical rules and distinctions. Examples of this kind of attitude exist in Tibetan iconometric literature and the XVIIIth century scholar A-kyā Blo-bzang-bstan-pa'i-rgyal-mtshan\*, for example, "unambiguously declares the purpose of his work to be co-operation in interdicting all incorrect methods and establishing uniform rules of iconography" (Gerasimova, 1978: 42). However, Indian iconometry reached Tibet after centuries of development in India, and underwent further changes under the influence of Tibetan artists. Ruelius (1974: Introduction) notes that when the sets of measurement data provided by

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\* Born about 1708 in Tsong-kha. He was the first Peking A-kyā (Eimer, 1980: 98).

Indian iconometric texts are distinguished from each other, one observes the product of historical accident within tradition, and of literary requirements. Peterson (in Aris and *Augy*, ed., 1980: 243) argues that "Tibet's canons of iconometry are more variable than previously thought.". It is likely that amongst the factors which contributed to further iconometric changes practical considerations by the artists often played an important role. According to tradition, for example, live models were used in the making of early Buddhist divinities in Tibet (cf. Karmay, 1975: 4-5) <sup>\*</sup>. The proportions of the Buddha figure were modified by the Tibetans, who departed from its measure of 120 añgulas as laid down in a canonical text, the Pratimāmanālakṣaṇa, in favour of a new measure of 125 añgulas, which in turn became canonical in Tibetan iconometry from the XVth century, when the great Tibetan painter sMan-thang-pa, "closing an experience which had lasted for centuries, both in India and in Tibet, classes images, and according as they belong to one type or another, he fixes different iconometric canons." (Tucci, 1949: 297). A series of diagonals was also introduced into the scheme (Ruelius, 1974: section 2.5.). In the XVIIIth

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<sup>\*</sup> Karmay (1975: 5) points out that "adaptation to indigenous physiognomy and physiology in Buddhist art is apparent throughout Asia. Whether this transformation was conscious and abrupt, or unconscious and gradual is a question that would be interesting to investigate. The former would seem to contradict the injunction to absolute integrity in the transmission of the teachings of one's master, a condition which applies all the way through from meditation to painting in the Tibetan tradition up to the 20th century. This accounts for the extreme conservatism as well as the survival of the entire range of Buddhist teachings in Tibet and may have caused the later suppression of the idea of a Tibetan, therefore heretic, style.".

century, Klong-rdol (cf. ch. III, p. 133) condensed and simplified that system (Tucci, 1949: 299). The "progressive reduction of the proportions" in Tibetan art, however, lessened the suppleness and levity conferred upon it by more ancient canons (Tucci, 1949: 299). In Nepal, too, iconometry underwent further developments and Ruelius (1974: section 2.1.3.) mentions two tantric works, the Brahmayāmalatantra and the Ṭingalāmata, to that effect, though he does not explain the nature of the developments posited by him. Manuscripts of those two texts, dated respectively N.S. 172 (1051 A.D.) and 294 (1173 A.D.) were discovered by Bagchi (1935: 90) in 1929 in the Nepal Valley. Two extensive chapters contained therein give very detailed iconometric information on the making of Brahmanical images. The standard of measurement used by the two texts "varies from that of the south Indian texts (...) but it agrees with those of the north Indian texts" (Bagchi, 1935: 91). It may be suggested, however, that the confusion between two different categories of divinities having different proportions in the Brahmayāmala (Bagchi, 1935: 92) was reflected in the production of images in the Nepal Valley for centuries to come, allowing a certain amount of iconometric freedom to the artists. The extinction of Buddhism in India and progressive withering of Newar scholarship as it was cut off from its sources further contributed to a relaxation of the iconometric and iconographic canons in the Nepal Valley. Whatever has survived of the northern Indian tradition in that respect is now almost exclusively oral, and based on the observation and study of ancient models by

the artists.

That iconometry is not an immutable arithmetic system, whatever the intentions of its theoreticians, is again suggested by the observation of the disparity of proportions within Tibetan and Himalayan statuary. If we were to carry out a statistical survey of the bodily measurements of a random selection of Tibetan or Newar statues by means of accurate and consistent standards, we would find that their proportions vary within the same class of divinities and that there are a number of exceptions to the iconometric rules as laid down by canonical treatises and drawings. We would come across larger shoulders, thicker necks, narrower faces, larger torsos and shorter legs than prescribed by canonical proportions, and realize, for example, that the length of the lips and eyes or their distance from the nose do not always follow uniform ratios. The reason for such inconsistencies is threefold. In the first place, the interpretation of iconometric treatises does not always coincide with the intentions of authors of works whose date of composition goes back several centuries (cf. Ruelius, 1974: Introduction). Secondly, iconometry is an ideal science, arising from men's need to order the apparently chaotic space surrounding them on an anthropomorphic basis and from their desire to preserve such order in the form of tradition. Many of its specified dimensions have been arrived at purely mathematically, and throw little light upon the practice of the artists. Although its starting point is the measurement of the human

Body, anatomic proportions vary from race to race and within the same race. Their representation changes from culture to culture and, diachronically, within the same culture. As such, it should be understood as a set of rules more or less freely interpreted by the artist and expressing an "artistic intention" (Panofski, 1970: 83), rather than the product of abstract mathematical formulations. This is particularly obvious in Newar painting, which appears to have been concerned more with iconographic than with iconometric problems from at least the XVth century to this day (cf., for example, the Newar sketchbooks illustrated by Lowry, 1977: 103-118; and Macdonald and Stahl, 1979: 137).

The third reason is purely technical, though not less important. Ruelius (1974: Introduction) notes that if we are to establish the measurements of its design from the finished work, we must allow the artist a certain freedom of execution and sometimes also a certain "carelessness of measurement".<sup>22</sup> The three-dimensional space does not allow the sculptor to be as accurate as the painter, who can draw his iconometric patterns on the two-dimensional space of a canvas or paper and build his icon on a grid of visible lines. Tibetan and Himalayan sculptors use the same two-dimensional iconometry as painters, and have not preserved or evolved a three dimensional iconometry for statuary purposes, as laid down by some Indian iconometric treatises, with frontal, rear, lateral and orthogonal schemes of proportions (cf. Ruelius, 1974: figs. 2,3,10 and 11). Tibetan sculptors

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<sup>22</sup> I thank Philip Denwood for drawing my attention to this, and for making a translation of Ruelius's Ph. D. thesis available to me.

erecting very large clay images sometimes draw the frontal iconometry of their icons on the surface of the wall behind them (cf. Dagyab, 1977, II: 49, No. 61). The drawings always depend entirely upon the painters' iconometry, as appears from an iconometric drawing of Vajrapāṇi belonging to the Tibetan clay sculptor Tshul-Khrims-dvangs-pa (see ch. II, pp. 102-3). Given the mobility of their medium and product, Newar lost-wax metal sculptors not only make use of iconometric drawings obtained from painters, but also learn their proportions from the world of icons by which ~~they are surrounded from birth~~ proportions which are not less real when they are not formulated in mathematical terms. We have seen (above, pp. 246-7, Nos. vi and viii) how Man Jyoti Sakya owns at least five ink drawings of various icons brushed by Newar and Tibetan painters on their respective iconometric grids. However, canonical proportions, as much as other artistic information, are also transmitted orally from artist to artist in a process which is probably centuries old. This applies equally to the traditional Newar and Tibetan methods of learning. Pradhan (cf. ch. II, p. 68, n. 1) suggests that sections of the Indian vāstusāstras have been transmitted orally through the generations of Newar artists, although actual texts appear to be unknown to them. Discussing the anonymous 'Jig-rten lugs-kyi bstan-bcos dpyad-don gsal-ba'i sgron-me', a text on the Tibetan classification of various schools of statuary according to their style, Tucci (1959: 180) suggests that its "author drew not only from books but also from the oral tradition handed down from father to son in some of the most



important artisan centers of Tibet.". Oral learning was an important feature of the cultural life of Tibet: "in the major dGe-lugs-pa establishments, especially the Three Great Monasteries around Lhasa and also in bKra-shis-lhun-po (Tashilhunpo), the main emphasis was on learning by rote to such an extent that writing and notetaking were discouraged when not actually forbidden. Learning to write and compose good Tibetan was regarded as the work of clerks and officials, and so positively harmful to the acquisition of true religious knowledge (...) Examinations were entirely oral (...) It is noteworthy that despite the existence of a well-established written language, such a tradition of oral scholarship, clearly based on ancient Indian styles, should have continued right into the mid-twentieth century. But at the end of their long training some of these highly expert 'scholars' might be unable even to write their name properly, however well they might read" (Snellgrove and Richardson, 1967: 238). These circumstances should help us to understand that iconometric literature in Tibet and the Himalayas was relatively poor and suggests that Tibetan and Newar artists had to rely upon other sources for reference, although they may be acquainted with texts on iconometry.

Tucci (1949: 291) explains that Tibetan iconometry is "the grammar of drawing", a science of mathematical proportions which cannot be dissociated from its liturgical purpose. It serves ritual sacred acts and has nothing in common with the canons of Western classic antiquity. Respect for the canonical proportions of a statue is indeed an act of religious devotion dictated by traditional values as transmitted chiefly

by oral tradition rather than a complicated technical or scholarly pursuit. During his stay in Sri Lanka, Ruelius (1974: Introduction) was able to observe sculptors reciting an unspecified Sanskrit text without possessing any really sound knowledge of Sanskrit. Being aware that it is quite impossible for an Indologist to edit and understand a śilpaśāstra without the help of native artists and a knowledge of their modus operandi, Ruelius attempted to become acquainted with their interpretation of iconometry. He was concerned not only with the transmission of two Sanskrit texts on iconometry, the Śāriputra and the Ālekhyalakṣaṇa, but also with making them comprehensible by showing their potentiality for being given practical expression by the artists. Noticing that the sculptors reciting the unspecified Sanskrit text could interpret it, although their interpretations did not always correspond precisely with the wording of that text, Ruelius assumes that the artists "evidently had learnt their texts with the commentaries" and concludes that their detailed understanding of the text is unnecessary. Ruelius's approach, however brilliant, is flawed by some limitations. For example, he does not seem to be concerned with establishing whether the two texts translated by him are specifically known to, and, if so, to which extent and how they are put into practice by present day Ceylonese sculptors. He does not provide evidence of the artists' knowledge of the commentaries of the unspecified Sanskrit text he heard being recited. He does not explain the paradoxical reversal of functions created by his own approach, whereby iconometric literature may be understood only through the observation of

the present day application of iconometric rules by living artists, whereas the traditional function of iconometry is to help the artist in his task. Though acknowledging that the understanding of iconometry depends upon its practice and that the Indian śilpas are generally corrupted and in a bad state, he maintains that they are "still serviceable and fulfil their purpose". In short, Ruelius's observations prove their "potentiality" of being given practical expression by the artist but do not tell us whether they are "physically" known to and actually used by them for practical purpose. Ruelius concludes that we are not dealing with systematic treatises of iconometry, but with handbooks to be memorized by the artists, which do not serve the purpose of teaching, but of marshalling together what has been learnt from a teacher and of committing it to memory in itemized form. Ruelius's explanation accounting for the recitation of iconometric rules in a little known language by artists who must apply them almost every day of their lives does not prove their practical function any more than the recitation of the alphabet before setting to write would. It may be suggested, rather, that such recitation has a purely religious significance, quite independent of the artists' supposed need of itemization. On the other hand, Ruelius (1974: Introduction) suggests that Indian iconometry is not the work of artists, but of scholars and literati, and accordingly distinguishes a "textual tradition" and an "artists' tradition" running side by side, so that their mutual correspondence is usually maintained, though he is

aware of the fact that such is by no means always the case. Ruelius's distinction, however, is fundamental because it raises the issue of the relationship between the theory of proportions, as seen by literati, and iconometry, as practised by sculptors. Provided that there is a relationship between textual tradition and the artists' tradition, how do they relate to each other? Are they the result of a binary fission of one iconometric tradition, or does one derive from the other? The first suggestion postulates an ideal moment in the history of art when artist and scholar were in close contact with each other or one and the same person. That was seldom the case, and the occupational stratification of the Indian caste system does not allow for much intercourse between those two classes. The second suggestion implies that either the artists derived their iconometry from the literati or the literati from the artists. However, the literati who compiled iconometric texts did not always have first-hand experience in the artists' modus operandi. Furthermore, it is likely that the artists supposed to use those texts were not always able to read or even understand the language in which they were couched.

Iconometric texts seldom have a truly independent character. Some of them are chapters, parts of larger texts on art, and their iconometric measurements may be adjusted by means of astrological numerology, as is the case with the Pratimāvidhāna, the sixty-fourth chapter in the Mānasāra (see ch. IV, p. 200). Most are compilations from different sources or extended adaptations from other works (Ruelius, 1974: Introduction). Texts which may be regarded specifically and solely as artists' manuals or handbooks to be easily consulted by a sculptor are rare. It is significant that one of the few Indian iconometric texts of independent character written undoubtedly by an expert, the Śāriputra, shows that its author must have had sketches in front of him, from which he measured off very carefully before writing his text (Ruelius, 1974: Introduction). The suggestion is therefore permitted that the literatist tradition and the artists' tradition evolved at an early stage from different approaches towards iconometry, sometimes religious, sometimes theoretical

and sometimes practical. A detailed discussion of the reciprocal influences and exchanges deriving from their common religious cultural background is not within the scope of this chapter. The fact that an expert in iconometry should start writing a text from sketches, however, suggests that drawings, probably based on oral tradition, could always provide a primary source of information on the subject, and that artists did not need to resort to the mediation of literati for their iconometric information, because they could always refer directly to the literati's own sources, drawings. It should be noted that sculptors are practical people, with practical problems and practical tasks. Their role is the creation of images, not the interpretation of texts. On the other hand, a literatus does not need to be concerned with the technicalities and real problems facing artistic creation, for his interests are primarily academic and his religious concerns are often expressed in symbolic terms. The Hevajra Tantra, for example, lays down fantastic conditions to be fulfilled before painting the image of Hevajra: "it should be painted with the five colours reposing in a human skull and with a brush made from the hair of a



human corpse (...) in a lonely spot at noon on the fourteenth day of the dark fortnight, in a ferocious state of mind from the drinking of some wine, with the body naked and adorned with the bone accoutrements; one should eat the sacrament in its foul and impure form, etc." (Snellgrove, 1976 repr, I: 114-5).

Even when works of iconometry are produced by artist scholars, as is the case with Padma-dkar-po's text "On the various proportions for the various classes of Buddhist images" (Padma-dkar-po, 1973, I: 307-317), they are tarred by the almost insuperable epistemological difficulty that they can be understood only by readers already familiar with the subject. This difficulty characterizes many Tibetan texts on arts and crafts. As is the case for all Tibetan literature, they are composed chiefly for the purpose of accumulating religious merit and are sometimes concerned more with a display of esoteric knowledge to impress the audience of other scholars or the donors who may have commissioned them, than with problems of clarity of exposition characteristic of manuals and handbooks as medieval European artists may have conceived them. However systematic Tibetan writers may be in gathering and conveying information, their exposition is often extremely condensed and takes for granted a vast amount of knowledge on the part of the reader, defeating what may be regarded as its purpose by Western epistemological standards.

We may thus conclude that Himalayan sculptors derive their iconometric information from drawings and their oral tradition, and that they do not

resort to texts as they may do when facing iconographic questions. There is ample evidence to suggest that, more often than not, such has always been the case, particularly in view of the fact that in the past the level of literacy among Tibetan and Newar artists was probably even lower than it is now. In relying almost exclusively on oral tradition, iconometric drawings and simple tools, XXth century Himalayan sculptors appear to share a common attitude towards iconometric texts, which may be traceable to their Indian forerunners.

Perhaps the question of the relationship between literati's tradition and artists' tradition may be better understood when considering that iconometry is not intended to be a complicated science requiring the use of literary sources by the artist. On the contrary, "the canon of proportions was so compiled that the iconographer required no numbered handbook; it sufficed him to remember the general principle of relationship of the units of standard body measurement, in order to calculate, without special difficulty, the proportions of any portrayed figure of any magnitude" (Gerasimova, 1978: 44). Tibetan sculptors not uncommonly adopted as an iconometric unit the patron's own finger (Tucci, 1967: 103) and it is likely that, like their Newar colleagues, they calibrated it by means of dividers\* and rulers. In Sri Lanka, sculptors carry out their iconometric measurements with a system of plumblines.

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\* See fig. 70B, No. 2.

## Style

The above considerations may explain the virtual absence of iconographic and iconometric texts in Newāri literature and the little use that Tibetan iconometric literature has for Himalayan sculptors in general. They may also account for some of the evolution of Tibetan and Himalayan statuary styles through the centuries. Iconometry is not only a system of proportions; the ways and means of its application and the significance invested in these by the artists are also included in it (Ruelius, 1974: Foreword).

Gerasimova (1978: 46) suggests that "the aspiration for maximum perfection and rigidity agreed with the philosophical mood of Buddhist art and to a great extent, contributed to its future necrosis", and notes that "in Tibet, Mongolia and the Buryat, we see on one hand, that over a period of many centuries all iconographic images were constructed according to a single principle while on the other, and just as characteristically, they show a distortion of the classic norm, an illiterate imitation of the canonical principles and even a complete misconception as to the purpose of imagery, along with a disintegration of form and content.". Gerasimova appears to draw an impossible line between respect for traditional iconometric rules and "illiterate imitation" of canonical principles and, in accusing Tibetan artists of "complete misconception" of the purpose of imagery, she implies that at some stage they stopped being motivated by religious inspiration, which is the only standard against which the integrity of religious art may be measured. It is

true that, for example, Klong-rdol's reduction of sMan-thang-pa's canon to simplified proportions contributed to the stiffening of Tibetan painting. However, Tibetan statuary was freer from the compulsions of iconometry and did not undergo the same necrosis as painting. This limited freedom may be easily observed in Tibetan portrait statuary, in which the genius of Tibetan artists finds its most original expression, although it should be added that this genre was also practised by Newar sculptors working in Nepal and Tibet (cf. ch. I, p. 15). Buryat iconographers "say that there were no canonical rules for biographical icons" (Gerasimova, 1978: 47). Some of these portraits appear to be very early, and Lowry (1973: 34-7) attributes two inscribed brass images at the Victoria and Albert Museum to the XIIIth century, although Béguin (1977: 242 and 244, No. 238) suggests XVth-XVIIth century for one of them and regards that kind of portraiture as "generally relatively late" (*ibid.*: 243). This genre was not limited to any specific monastic order, or area, or medium, as may be seen from a clay portrait of Rin-chen-bzang-po (cf. ch. III, p. 126) in the White Temple at Tsaparang, in western Tibet (Govinda, 1979, II: 181), and it has lived to this day, as is shown by a XXth century clay image of Dam-chos-gyur-med at Phiyang, in Ladakh (Snellgrove and Skorupski, 1978: 122, No. 123). Gerasimova (1978: 48) claims that "in the artistic thought of the 'Buddhist' peoples, biographical themes created an escape from the cul-de-sac of the conventional dogma of the canon and prepared a professional basis for the development of secular art." As is often the case, Gerasimova does not define or specify her thought any further and we are left

with the doubt that she may regard Tibetan portraiture as a kind of link between the fundamentally religious art of traditional Tibetan culture and the ideological art of socialist realism. It is possible that in Tibet no other options have been left after the Chinese occupation of 1959 but to follow the latter kind of art. However, Chinese literature on Tibet provides no evidence that socialism has promoted any kind of new artistic expression in Tibet, whereas it is clear that traditional religious art has thrived in the Himālayas to this day as a result of popular faiths which play an essential role in the social structures of Himalayan cultures, rather than of the "illiterate imitation" of iconometric rules. Furthermore, examples of secular art have been produced by Tibetans for centuries in the form of a purely decorative genre of murals illustrating animals and plants on walls of lay dwellings (cf. Denwood, 1980: 9) and even stables (cf. Cutting, 1974: fig. opp. p. 236; and 1946: 195). Some paintings have an anecdotal or topographical character (cf., for example, Monod-Bruhl, 1954: "Le Potala", Jisl: 32-6, Béguin, 1977: 58, No. 277, and Trungpa, 1975: 131, No. 52).

Gerasimova's suggestion of a possible development of a new secular art from religious portraiture does not apply to XXth century Newar sculpture either. Nepalese monumental statuary of the XXth century, as illustrated by images of Gorkha kings, Rana ministers and Gurkha unknown soldiers, is by no means rooted in traditional Newar religious sculpture. In the only instance of that genre examined here, Pancha and Man Jyoti Sakya's "Arjamber Purus" (see ch. II, pp. 58 and 63-4), lay and religious themes overlap, but there is no sign

of any stylistic amalgamation to indicate a new trend in Newar statuary. In the main, the old stylistic characteristics expressing ontological conceptions have survived, probably because the religious feeling and the culture nourishing them are still alive in the Himālayas. Newar sculptors do not appear to have been involved in the manufacture of images glorifying the Gorkha and Rana regimes. As was the case in the past, they continue to be concerned with religious subjects, and lay biographical or other themes are the exception rather than the rule. However, they have shown their ability to understand and adapt to Western styles alien to their traditional taste. An example of partial assimilation of foreign motifs to a Buddhist subject is Pancha Jyoti Sakya's Śuddhodana (see ch. II, pp. 58-9), cast five years after "Arjamber Purus". The most recent and interesting development of Newar religious portraiture is provided by Bodhi and Siddhi Raj Sakya's Sri Sai Baba (see ch. II, pp. 76-7). The scarcity of this genre in traditional Newar statuary does not allow for much speculation. Bodhi and Siddhi Raj's realistic portrait represents a stylistic change from the Newar sculptors' traditional interpretation of the anatomy of the human body. Being an isolated example, however, it would be premature to suggest that it announces a change in the ontological conceptions of the artists<sup>22</sup>, and is better interpreted

<sup>22</sup> Like India, Nepal has produced a number of modern artists who are not involved in the manufacture of religious icons, and are more or less heavily influenced by modern Western art (cf. Mainali, ed., 1975: passim). This work is only concerned with traditional religious sculpture.



as an experiment or, perhaps, a token concession by the sculptors to their patron's specific instructions.

Answering the above question in detail without yielding to speculation and generalization is a rather difficult task, in the absence of a historically acceptable chronological framework upon which to follow the stylistic development of Tibetan and Newar art. The instances of the Ratnasambhava at Svayambūnāth (see ch. III, p. 124), of the "Tibetan" Hayagrīva and Prachanda Beer (ch. II, pp. 87-9) and the "Chamba" Viṣṇu (ch. IV, pp. 233-4), illustrate the uneasiness with which art historians and experts, however serious and competent, date Himalayan statuary. A book by Ulrich von Schroeder<sup>xx</sup>, reporting the literature and conflicting dates for specific Indian, Tibetan and Himalayan metal images by different art historians points to the suggestion that inconsistent views on chronology are the rule rather than the exception. Agreement does not even exist on the dating of inscribed portraits (cf. above, p. 267). The furthest art historians have arrived so far in their attempt to break the subject has been the analysis of different schools and tendencies in Tibetan art. The method used has consisted in working inwards from the outside, relying on the available data of the various cultures which influenced Tibetan art through its history. Béguin's catalogue is an admirable effort in that direction, even if, in the end, we are left wondering about what may be positively definable as "Tibetan art",

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<sup>xx</sup> Indo-Tibetan Bronzes, Hong Kong, Visual Dharma Publications Ltd., in press.

provided that Tibetan art needs a definition to justify its existence. Under circumstances which do not allow for a sound chronological framework, let alone a definition of Tibetan art, an attempt to analyze, for example, the stylistic evolution of Ladakhi sculpture during the XXth century, would have to rely upon conjecture and speculation based on the relatively poor knowledge we possess of the history of art in western Tibet after the XIIIth century. Though we may assume that the forms used by present-day Ladakhi sculptors have evolved from those of the past, we know next to nothing of the chronology of the most important clay images to be found in western Tibetan monasteries. The same applies to western Tibetan metal statuary, and we have seen (ch. I, p. 12, n. 1) how there is no historical evidence of the provenance of the so-called "western Tibetan bronzes". The approach of Lowry, who shows an understandable reluctance to ascribe Tibetan metal images to specific dates, a fact that proves his integrity and stems from his awareness that there are simply not enough firmly dated pieces to use as a framework of reference, seems preferable at the present state of our knowledge. Until more of such items become available, we can hardly discuss Tibetan art in terms of "stylistic evolution".

Is the picture any clearer when we turn to Newar metal statuary, where inscriptions with dates are more frequently found than in Tibetan sculpture? It may be useful to report the opinions of qualified art historians on the subject. The origin of Newar sculpture itself finds them in disagreement. Kramrisch (1964: 40) maintains that from the Xth century to the XIIIth century, Newar statuary was influenced by the

eastern Indian schools. However, the Newar "versions" of Pala images "are unmistakable in their suave line and expression. They extract from the ornate maturity of Sena sculptures a delicacy of feeling and an elegance not within reach of the East Indian bronzes.". The modelling becomes "more shallow and the contour more smoothly melodious" (Kramrisch, 1964: 41) and "the rich modelling of the Sena school is presented by the Newari sculptors as sensitively as are the ornaments. Its plasticity, however, has less tension (...) The images appear not so much as direct embodiments steeped in glory but rather as if listening to the voice within which invests them with radiance" (Kramrisch, 1964: 40). According to Pal (1974: 33), "such generalisations, however, must be accepted with caution, and a comparison of the actual works of art tells a different story". The stylistic features shared by Pala/Sena and Newar statuary are "rather the result of their common heritage, for both the Pala style of eastern India and the Nepali style are ultimately derived from the Gupta tradition" (Pal, 1974: 34). Newar and Pala statues appear to reflect two distinct stylistic traditions which are the legacy of the Gupta classical phase of Indian art.

From the XIIIth century onwards, "delicacies of sentiment were carried, by an at times equivocal form" into the XVth century. In the period 1480-1768, Kramrisch (1964: 40) sees the "last phase of Newari creativeness" characterized by "images of frenzied grandeur". On the other hand, Sipra (1968: 45) maintains that "in the later mediaeval art of Nepal metal cast images are found in abundance but they are devoid of the earlier balance and plastic quality which was inspired

by the Pāla school of art. It has been a work of more ornamentation, yet there is no dullness in it, because to attract the illiterate mass the Newāri artists powerfully emphasize a legend or dogma by adopting florid features." In the XIVth century, "with an increasingly summary modelling (...), the contour of the simplified volumes tightens with an arrested energy. In the Newari response to the Sena style, the ornaments which had formerly enriched the effect of the sculptures became an essential and expressive part of the sculptural vision" (Kramrisch, 1964: 41). The XIVth and XVth centuries "seem to abound in new creations in different ramifications of an evolving new style". Towards the end of the XIVth century "a renewed interest in modelling makes the surface of some images appear as if kneaded (...) or, where the intention is more descriptively suggestive, parts of the body, like the abdomen or thighs are made to appear resilient to the touch." Bodhisattva figures "assignable to the early part" of the XVth century "are over-elongated in their slimness. As provocative as they are unearthly in their stance, they seem to sway while the figure, after having set foot in this world, halts." (Kramrisch, 1964: 41). Towards the XVIth century, "these slim, elongated figures swell with a new sap" (ibid, 1964: 42). Meanwhile, "in the third quarter" of the XVth century, "a more earthbound type (...) had become established. In these figures the fluency of the contour is interrupted and the torso sits on broad hips (...). Only rarely (...) is this type given (...) lyrical charm (...). In the fuller proportions which the figure is given toward the end of the fifteenth century", the work of the XVIth century

"introduces itself (...). These two centuries correspond, not only in time but also in their sequence of artistic content, to the Renaissance in Italy.". From the end of the XVIth century, "the form becomes dilated, charged with fierce or brooding emotion (...) or desiccated by it". Images of the XVIIth century "often have a dry correctness which rigorously preserves the sweet nobility of Newari tradition.". In the XVIIIth century, the "unprecedented elan" and power given form from the mid-XVth century, "although diminished, do not subside" (Kramrisch, 1964: 42 and 43). Images made in the XIXth century "manifest a characteristic lack of rhythm" (Sipra, 1968: 45), although in some instances "metal images, both cast and repoussé, maintained their quality" (Kramrisch, 1964: 40). Unfortunately, until recently, no art historian bothered to define the development of Newar art in the XIXth and XXth centuries any better. Late Tibeto-Newar and Sino-Tibetan statuary were dismissed as unworthy of serious study: "The metal images of 'Lamaistic Buddhism' of the seventeenth and eighteenth century became familiar to the West in figures of average quality, produced in large quantities in Tibet, Nepal and Mongolia" (Kramrisch, 1964: 43).

Kramrisch's account, based as it is on only two dated metal images (cf. Kramrisch, 1964: 42\*, 92 and 141, No. 67), may hardly be regarded as historical, for its almost complete

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\* The image of Vasudharā here mentioned by Kramrisch is illustrated by Pal (1974, I: pl. 39) and described by Barrett (1957: 91, No. 2). It is inscribed with the N.S. 587 (1466 A.D.) and "seems to be the earliest dated Nepalese bronze yet published. It is a solid casting of a good coppery bronze, and is gilded and delicately enhanced with turquoise, lapis and spinel rubies, a late Pala technique. It is 4 1/10 inches in height, and of lovely quality." Barrett (1957: 93).

lack of epigraphic or other documentary evidence. Her attribution of specific items to precise periods within a century is contrasted by the surprising statement that "the dates given the (sic) works of art are meant to suggest a relative chronology. Very few of the works are inscribed with dates, and, in many instances, lack of comparable objects precludes any but a tentative dating" (Kramrisch, 1964: 127). In the absence of "absolute chronology" and epigraphic evidence, Kramrisch relies upon stylistic considerations in order to establish a "relative chronology". How accurate is Kramrisch's "relative chronology" once her descriptions have been emptied of their Pindaric metaphors and arbitrary similes?\*

I have made a point of quoting them at length, in order to show the limitations of a kind of approach based on stylistic considerations unsupported by historical evidence. Kramrisch's account does away with any detailed analysis of the evolution of specific motifs, garments and ornamentation of the single items taken into consideration. Sometimes only one example is used as evidence to illustrate the style of a whole period. The very attempt to establish a "relative chronology" on the presupposition of some ideal stylistic evolution rather than first building a framework based on firmly datable pieces, and then interpreting uninscribed pieces on that absolute background, cannot be regarded as the task of an art "historian"

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\* Kramrisch's comparison of Newar art of the XVIth and XVIIth centuries, "in their sequence of artistic content to the Renaissance in Italy" is hardly specific and is totally oblivious of the three main features of the Italian Renaissance: the rediscovery of the classical world; the introduction of perspective; and the raising of man to a central position in the universe. Newar sculpture of the XVIth and XVIIth centuries is not characterized by any of those three essential features of the Italian Renaissance.



We know, for example, that in Tibetan statuary, "increasing ornamentation is not necessarily an indication of stylistic progression in a chronological sequence" (Pal, 1969: 33). The same applies to Newar sculpture, and a stylistic approach to the chronology of Newar statuary without the support of epigraphic or other historical evidence is little more than a circular argument casting little light on its stylistic developments. A seriously historical attitude is shown by Pal (1974, I) in his study of the sculpture of Nepal, where he pioneers the establishment of an absolute chronology on the basis of firmly datable pieces. However, his lack of interest in the development of Newar statuary during the last two centuries is betrayed by the illustration of only one group, dated c. 1821 (Pal, 1974, I: No. 49). Like Kramrisch, Pal seems to imply that the history of Nepalese art has ceased to be in the XXth century. More recently, Macdonald and Stahl have illustrated a number of metal images in their book on Newar architecture and painting during the Malla period, without discussing the chronology and materials of Newar statuary and generally accepting previous dates, when dates are made available.

The task of writing a detailed survey of the stylistic evolution of Newar statuary in the XXth century is thus made very difficult not only by the lack of a definite chronological framework for previous periods, but also by the neglected state in which XVIIIth to XXth century Newar art has been left by all art historians. No analysis of the history of Newar sculpture from the Gorkha conquest to this day is available yet. However, a number of inscribed brass



91. Mañjuśrī flanked by White and Green Tārā. Fire-  
-gilded copper. August-September 1816. 11½ in. (29.5 cm.).

and gilded copper images dated to the XVIIIth and XIXth centuries\* allows a few general considerations. Some of them show stylistic characteristics, sometimes already announced in icons like the 20 3/10" fire-gilt Amitābha (British Museum Reg. No. 1932.2-11.4) dated N.S. 659 (1538 A.D.; cf. Barrett, 1957: 90-2, No. 1). They include elaborate thrones, the presence of elongated stamens above the lotus petals surrounding the base, and highly decorated mandorlas, sometimes 91 with complicated floral patterns. Technical features recurrent in Newar metal statuary from the XVIIIth century include frontal gilding, whereby the back of an image is often left ungilded and sometimes painted red, an increase in the number of the parts fitted together to constitute the same figure, the use of combined techniques, whereby a cast image may rest on a repoussé stand, and the increasing popularity of brass for casting, at the expense of copper.

The Gorkha conquest did not mark a stylistic change in Newar statuary, for the new rulers contributed very little to the art of Nepal\*\*. During the Rana period, Western neo-classical features appeared in some icons, but the architecture in the Nepal Valley was more affected than any other art. Italian architects were invited to Nepal by the Ranas, and many houses and palaces in the Valley were built or restored in the XIXth century European style\*\*\*. Architectural elements in religious

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\* Cf. ch. II, pp. 52-3.

\*\* Cf. Wright (1972 repr.: 73-4). "How the Gorkhas occupy and amuse themselves is as yet an unfathomed mystery to me. They have no business, except playing at soldiering; they have no out-of-door games; they never shoot, except when they go to the Terai; and they have no literature to occupy them in their houses."

\*\*\* Cf., for example, Hosken, 1974: 102-3, Nos. 138-140; 116,

buildings appeared in the same style (cf. Hosken, 1974: 281, No. 442), like the now demolished arch giving access to the stūpa of Bodhnāth, built in the Italian style of the XIXth century (Snellgrove, 1966: 105).

In Newar religious sculpture, however, these new trends were short-lived, always co-existing with the more traditional Newar and Tibeto-Newar styles and allowing other developments, as is shown by the life and works of Man Jyoti Sakya (see ch. II, pp. 63-71). During the third quarter of the XXth century, the increase in demand encouraged some Newar sculptors to continue the late Malla style of the XVth to XVIIIth century, as represented, for example, by the White Tārā illustrated by Kramrisch (1964: 51-52, No. 65). The most outstanding representatives of this school are Bodhi, Siddhi and Nhuche Raj Sakya and Babu Kaji Vajracharya.<sup>§</sup> They have also continued to produce images in Tibeto-Newar style and occasionally followed ancient Kashmiri, Indian, and even Burmese models, also succeeding in a few attempts at realistic portraiture. As was the case in the past (cf. Foreword, p.IV and ch. I, p.10), different styles may co-exist in the work of one artist, who may model images to suit his customers, whether Newars, Tibetans or Westerners. The work of Jagat Man Sakya well illustrates this kind of versatility. Other sculptors, like Kalu

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No. 147; 138, No. 200; 151, No. 234; 158; 176, Nos. 261-2; 179, No. 270; 185, No. 283; 191, Nos. 289-90; 192, Nos. 291; 194, No. 297; 198, No. 306; 201, Nos. 310-313; 209, No. 330; 214-5, Nos. 341-5; 229, No. 357; 239, No. 376; 291, No. 460; 293, No. 467.

<sup>§</sup> For a detailed analysis of the iconographic and stylistic features of selected pieces by these artists, the reader is directed to their respective biographical sections in ch. II.

Kuma, have responded to the demand for yab-yum deities by abandoning the soft attitudes of much Malla art and adopted coarser forms, sometimes derived from the Hindu Newar tradition of XVIIIth and XIXth century painting, and sometimes from Tibetan art. In that respect, Kalu Kuma represents the most original development of Newar statuary since Man Jyoti Sakya ceased his activity as a sculptor, because of his vigorous interpretation of the ontological conceptions of the past with a new eye and of his infusion of personal taste into the forms of today.

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